L. Cook
578693

```
=> fil reg

COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.15       0.15

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STRUCTURE FILE UPDATES:    1 APR 2001  HIGHEST RN 329683-87-6
DICTIONARY FILE UPDATES:   1 APR 2001  HIGHEST RN 329683-87-6

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  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

Structure search limits have been increased.  See HELP SLIMIT
for details.

=> e ".alpha.2 macroglobulin"/cn

E1            1      .ALPHA.1D-ADRENOCEPTOR (MOUSE STRAIN 129SVJ)/CN
E2            1      .ALPHA.1I3/CN
E3            0 --> .ALPHA.2 MACROGLOBULIN/CN
E4            1      .ALPHA.2,
.GAMMA.4-BIS(N-(N-(2-AMINOETHYL)-2-AMINOETHYL)AMIN
                     O)MESITOL/CN
E5            1      .ALPHA.2,.ALPHA.3-DIBROMO-1,2,3,4-TETRAMETHYLBENZENE/CN
E6            1      .ALPHA.2,.ALPHA.3-DIBROMOPREHNITENE/CN
E7            1      .ALPHA.2,.ALPHA.3-DIHYDROXYPREHNITENE/CN
E8            1      .ALPHA.2,.ALPHA.4,.ALPHA.6-TRIS(ETHYLAMINO)MESITOL/CN
E9            1      .ALPHA.2,.ALPHA.4,.ALPHA.6-TRIS(PHENYLTHIO)MESITOL/CN
E10           1      .ALPHA.2,.ALPHA.4-BIS(DIMETHYLAMINO)MESITOL METHYL
CHLORIDE
                     QUATERNARY AMMONIUM SALT/CN
E11           1
.ALPHA.2,.ALPHA.4-BIS(N-(N-(2-AMINOETHYL)-2-AMINOETHYL)AMINO
                     )MESITOL/CN
E12           1
.ALPHA.2,.ALPHA.4-BIS(N-(N-(2-AMINOETHYL)-2-AMINOETHYL)AMINO
                     )MESITOL METHYL CHLORIDE QUATERNARY AMMONIUM SALT/CN

=> e ".alpha.2-macroglobulin"/cn

E1            1      .ALPHA.2-HS-GLYCOPROTEIN (HUMAN PRECURSOR)/CN
E2            1      .ALPHA.2-LEVANTANOLIDE/CN
E3            0 --> .ALPHA.2-MACROGLOBULIN/CN
E4            1      .ALPHA.2-MACROGLOBULIN (696-LYSINE) (HUMAN PROTEIN MOIETY
RE
                     DUCED)/CN
E5            1      .ALPHA.2-MACROGLOBULIN (HUMAN AMYLOID-.BETA.-BINDING
DOMAIN
                     FRAGMENT)/CN
```

```
E6            1      .ALPHA.2-MACROGLOBULIN (HUMAN AMYLOID-.BETA.-BINDING
DOMAIN
                     PLUS .ALPHA.2-MACROGLOBULIN RECEPTOR-BINDING DOMAIN
FRAGMENT
                     )/CN
E7            1      .ALPHA.2-MACROGLOBULIN (HUMAN CLONE P.ALPHA.2M PRECURSOR
PRO
                     TEIN MOIETY REDUCED)/CN
E8            1      .ALPHA.2-MACROGLOBULIN (HUMAN COMPLETE
.ALPHA.2-MACROGLOBULI
                     N RECEPTOR-BINDING DOMAIN FRAGMENT)/CN
E9            1      .ALPHA.2-MACROGLOBULIN (HUMAN PRECURSOR PROTEIN MOIETY
REDUC
                     ED)/CN
E10           1      .ALPHA.2-MACROGLOBULIN (HUMAN PROTEIN MOIETY REDUCED)/CN
E11           2      .ALPHA.2-MACROGLOBULIN (HUMAN)/CN
E12           1      .ALPHA.2-MACROGLOBULIN (LIMULUS POLYPHEMUS CLONE
.LAMBDA.ZIP
                     1 PRECURSOR)/CN

=> s e11;d ide can;e fatty acid binding protein/cn

L1            2 ".ALPHA.2-MACROGLOBULIN (HUMAN)"/CN


L1   ANSWER 1 OF 2  REGISTRY  COPYRIGHT 2001 ACS
RN   287743-14-0  REGISTRY
CN   .alpha.2-Macroglobulin (human) (9CI)  (CA INDEX NAME)
OTHER NAMES:
CN   2: PN: WO0046246 SEQID: 2 claimed protein
FS   PROTEIN SEQUENCE
MF   Unspecified
CI   MAN
SR   CA
LC   STN Files:   CA, CAPLUS, TOXLIT

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
*** USE 'SQD' OR 'SQIDE' FORMATS TO DISPLAY SEQUENCE ***
               1 REFERENCES IN FILE CA (1967 TO DATE)
               1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE   1:  133:159917


E1            1      FATTY ACID AMIDES, COCO, N-(HYDROXYETHYL)-/CN
E2            1      FATTY ACID AMINOHYDROLASE/CN
E3            0 --> FATTY ACID BINDING PROTEIN/CN
E4            1      FATTY ACID BINDING PROTEIN (ASCARIS SUUM)/CN
E5            1      FATTY ACID BIOSYNTHESIS PROTEIN PLSX (PSEUDOMONAS
AERUGINOSA
                      STRAIN PAO1 GENE PLSX)/CN
E6            1      FATTY ACID C-10 HYDRATASE/CN
E7            1      FATTY ACID CALCIUM SALTS/CN
E8            1      FATTY ACID CIS-TRANS ISOMERASE/CN
```

```
E9            1     FATTY ACID CIS/TRANS ISOMERASE (VIBRIO CHOLERAE STRAIN
N1696
                    1 GENE VCA0552)/CN
E10           1     FATTY ACID COA LIGASE/CN
E11           1     FATTY ACID COENZYME A LIGASE 5 (HUMAN GENE FACL5/ACS5)/CN
E12           1     FATTY ACID CONDENSING ENZYME/CN

=> s e4;d ide can;e mouse glomular basal membrane/cn 5

L2            1 "FATTY ACID BINDING PROTEIN (ASCARIS SUUM)"/CN


L2   ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2001 ACS
RN   189833-72-5  REGISTRY
CN   Protein (Ascaris suum fatty acid-binding As-p18) (9CI)  (CA INDEX NAME)
OTHER NAMES:
CN   Fatty acid binding protein (Ascaris suum)
CN   GenBank U51906-derived protein GI 1272384
FS   PROTEIN SEQUENCE
MF   Unspecified
CI   MAN
SR   CA
LC   STN Files:   CA, CAPLUS

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
*** USE 'SQD' OR 'SQIDE' FORMATS TO DISPLAY SEQUENCE ***
               1 REFERENCES IN FILE CA (1967 TO DATE)
               1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE   1:  126:341265


E1            1     MOUSE EPIDERMAL GROWTH FACTOR/CN
E2            1     MOUSE FAT 1 CADHERIN (MOUSE GENE MFAT1)/CN
E3            0 --> MOUSE GLOMULAR BASAL MEMBRANE/CN
E4            1     MOUSE GROWTH HORMONE-RELEASING FACTOR/CN
E5            1     MOUSE INTESTINAL TREFOIL FACTOR/CN

=> e gmb/cn 5

E1            1     GMA 9/CN
E2            1     GMA-L 10/CN
E3            0 --> GMB/CN
E4            1     GMB 1/CN
E5            1     GMB 4030/CN

=> s gmb ?/cn

L3            2 GMB ?/CN

=> d 1-2 ide can

L3   ANSWER 1 OF 2  REGISTRY  COPYRIGHT 2001 ACS
```

RN 220812-55-5 REGISTRY
CN **GMB 4030 (9CI)** (CA INDEX NAME)
MF Unspecified
CI PMS, MAN
PCT Manual registration
SR CA
LC STN Files: CA, CAPLUS

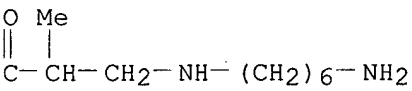
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
3 REFERENCES IN FILE CA (1967 TO DATE)
3 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 132:223508

REFERENCE 2: 130:210502

REFERENCE 3: 130:197565

L3 ANSWER 2 OF 2 REGISTRY COPYRIGHT 2001 ACS
RN 59216-20-5 REGISTRY
CN Propanoic acid, 3-[(6-aminohexyl)amino]-2-methyl-, butyl ester (9CI) (CA INDEX NAME)
OTHER NAMES:
CN **GMB 1**
FS 3D CONCORD
MF C14 H30 N2 O2
LC STN Files: CA, CAPLUS



2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 85:64396

REFERENCE 2: 84:181044

=> fil medl,caplus,biosis,embase,wpids,jicst,ntis,scisearch,biotechno

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FULL ESTIMATED COST	19.05	19.20

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=> s (kidney disease or nephrolog? or renal replacement therap? or (kidnet or renal)(3a)(fail? or insufficienc?)

UNMATCHED LEFT PARENTHESIS '(KIDNEY'
The number of right parentheses in a query must be equal to the number of left parentheses.

=> s (kidney disease or nephrolog? or renal replacement therap? or (kidney or renal)(3a)(fail? or insufficienc?))

L4	123491	FILE MEDLINE
L5	33208	FILE CAPLUS
L6	77268	FILE BIOSIS
L7	85171	FILE EMBASE
L8	3080	FILE WPIDS
L9	52224	FILE JICST-EPLUS
L10	745	FILE NTIS
L11	47946	FILE SCISEARCH
L12	6453	FILE BIOTECHNO

TOTAL FOR ALL FILES
L13 429586 (KIDNEY DISEASE OR NEPHROLOG? OR RENAL REPLACEMENT THERAP? OR (KIDNEY OR RENAL)(3A)(FAIL? OR INSUFFICIENC?))

=> s l13 and (alpha 2 macroglobulin or macroglobulin or blood protein! or major urin? protein)
<------User Break------>
u
SEARCH ENDED BY USER
SEARCH ENDED BY USER

=> s l13 and (alpha 2 macroglobulin or macroglobulin or blood protein! or major urin? protein or l1)

```
L14        1190 FILE MEDLINE
L15         168 FILE CAPLUS
L16          57 FILE BIOSIS
L17          82 FILE EMBASE
L18           1 FILE WPIDS
L19          34 FILE JICST-EPLUS
'CN' IS NOT A VALID FIELD CODE
L20           4 FILE NTIS
'CN' IS NOT A VALID FIELD CODE
L21          36 FILE SCISEARCH
L22           9 FILE BIOTECHNO

TOTAL FOR ALL FILES
L23        1581 L13 AND (ALPHA 2 MACROGLOBULIN OR MACROGLOBULIN OR BLOOD
PROTEIN
                ! OR MAJOR URIN? PROTEIN OR L1)

=> s (gmb or l3 or mouse glomul? basal membrane) and l23

L24           0 FILE MEDLINE
L25           0 FILE CAPLUS
L26           0 FILE BIOSIS
L27           0 FILE EMBASE
L28           0 FILE WPIDS
L29           0 FILE JICST-EPLUS
'CN' IS NOT A VALID FIELD CODE
L30           0 FILE NTIS
'CN' IS NOT A VALID FIELD CODE
L31           0 FILE SCISEARCH
L32           0 FILE BIOTECHNO

TOTAL FOR ALL FILES
L33           0 (GMB OR L3 OR MOUSE GLOMUL? BASAL MEMBRANE) AND L23

=> s l23 and (l2 or fatty acid bind? protein or fabo or (kidney or
renal)(w)tissue or urine or liver type or proximal tubule)
<------User Break------>
u
SEARCH ENDED BY USER

=> s l23 and (l2 or fatty acid bind? protein or fabp or (kidney or
renal)(w)tissue or urine or liver type or proximal tubule)

L34         257 FILE MEDLINE
L35          58 FILE CAPLUS
<------User Break------>
u
SEARCH ENDED BY USER

=> s l23 and (l2 or fatty acid bind? protein or fabp) and ((kidney or
renal)(w)tissue or urine or liver type or proximal tubule)

L37           0 FILE MEDLINE
L38           1 FILE CAPLUS
L39           0 FILE BIOSIS
L40           0 FILE EMBASE
```

L41 0 FILE WPIDS
L42 0 FILE JICST-EPLUS
'CN' IS NOT A VALID FIELD CODE
L43 0 FILE NTIS
'CN' IS NOT A VALID FIELD CODE
L44 0 FILE SCISEARCH
L45 0 FILE BIOTECHNO

TOTAL FOR ALL FILES
L46 1 L23 AND (L2 OR FATTY ACID BIND? PROTEIN OR FABP) AND ((KIDNEY OR RENAL)(W) TISSUE OR URINE OR LIVER TYPE OR PROXIMAL TUBULE)

=> d cbib abs

L46 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2001 ACS
1999:359733 Document No. 130:349390 Method for examining **kidney diseases**.. Yamanouchi, Masaya; Honda, Akiko; Uchida, Hiromi; Sugaya, Takeshi; Kimura, Kenjiro (Tanabe Seiyaku Co., Ltd., Japan). PCT Int. Appl. WO 9927363 A1 19990603, 31 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (Japanese). CODEN: PIXXD2. APPLICATION: WO 1998-JP5319 19981126. PRIORITY: JP 1997-323684 19971126.
AB A diagnostic method is described for examg. **kidney diseases** by immunol. detecting a **fatty acid-binding protein** derived from **kidney tissues** contained in the specimen sampled from mammals other than rodents. This method can provide examn. results contg. information highly useful in diagnosing the prognosis of **kidney diseases** hardly obtained by the existing methods. Based on the results obtained by this method, an appropriate therapy can be selected by taking the risk concerning the prognosis into consideration. This method is applicable not only to **kidney tissue** samples, but also to **urine** samples, and therefore, the examn. can be conveniently and efficiently performed.

=> s l23 and (l2 or fatty acid bind? protein or fabp or (kidney or renal)(w)tissue or urine or liver type or proximal tubule)

L47 257 FILE MEDLINE
L48 58 FILE CAPLUS
L49 9 FILE BIOSIS
L50 20 FILE EMBASE
L51 0 FILE WPIDS
L52 7 FILE JICST-EPLUS
'CN' IS NOT A VALID FIELD CODE
L53 1 FILE NTIS
'CN' IS NOT A VALID FIELD CODE

```
L54          11 FILE SCISEARCH
L55           1 FILE BIOTECHNO

TOTAL FOR ALL FILES
L56         364 L23 AND (L2 OR FATTY ACID BIND? PROTEIN OR FABP OR (KIDNEY OR
                RENAL)(W) TISSUE OR URINE OR LIVER TYPE OR PROXIMAL TUBULE)

=> s l56 and (exam? or diagno? or determin? or identif? or analy?)

L57         184 FILE MEDLINE
L58          44 FILE CAPLUS
L59           5 FILE BIOSIS
L60          18 FILE EMBASE
L61           0 FILE WPIDS
L62           6 FILE JICST-EPLUS
L63           0 FILE NTIS
L64           7 FILE SCISEARCH
L65           1 FILE BIOTECHNO

TOTAL FOR ALL FILES
L66         265 L56 AND (EXAM? OR DIAGNO? OR DETERMIN? OR IDENTIF? OR ANALY?)

=> s l56 and prognos?

L67           7 FILE MEDLINE
L68           6 FILE CAPLUS
L69           0 FILE BIOSIS
L70           0 FILE EMBASE
L71           0 FILE WPIDS
L72           0 FILE JICST-EPLUS
L73           0 FILE NTIS
L74           0 FILE SCISEARCH
L75           0 FILE BIOTECHNO

TOTAL FOR ALL FILES
L76          13 L56 AND PROGNOS?

=> s (l66 or l76) and (yamanouchi m? or honda a? or hase h? or sugaya t? or
kimura k)/au,in

'IN' IS NOT A VALID FIELD CODE
L77           0 FILE MEDLINE
L78           1 FILE CAPLUS
L79           0 FILE BIOSIS
'IN' IS NOT A VALID FIELD CODE
L80           0 FILE EMBASE
L81           0 FILE WPIDS
L82           0 FILE JICST-EPLUS
'IN' IS NOT A VALID FIELD CODE
L83           0 FILE NTIS
'IN' IS NOT A VALID FIELD CODE
L84           0 FILE SCISEARCH
'IN' IS NOT A VALID FIELD CODE
L85           0 FILE BIOTECHNO

TOTAL FOR ALL FILES
```

too many - narrowed using priority date see page 10 - end.

L86 1 (L66 OR L76) AND (YAMANOUCHI M? OR HONDA A? OR HASE H? OR SUGAYA
T? OR KIMURA K)/AU,IN

=> s l86 not l46

L87 0 FILE MEDLINE
L88 0 FILE CAPLUS
L89 0 FILE BIOSIS
L90 0 FILE EMBASE
L91 0 FILE WPIDS
L92 0 FILE JICST-EPLUS
L93 0 FILE NTIS
L94 0 FILE SCISEARCH
L95 0 FILE BIOTECHNO

TOTAL FOR ALL FILES
L96 0 L86 NOT L46

=> s (l66 or l76) and pd<=november 1998

<------User Break------>
u
SEARCH ENDED BY USER
Numeric values may contain 1-8 significant figures. If range notation is used, both the beginning and the end of the range must be specified, e.g., '250-300/MW'. Expressions such as '250-/MW' are not allowed. To search for values above or below a given number, use the >, =>, <, or <= operators, e.g., 'MW => 250'. Text terms cannot be used in numeric expressions. If you specify a unit, it must be dimensionally correct for that field code. To see the unit designations for field codes in the current file, enter "DISPLAY UNIT ALL" at an arrow prompt (=>).

=> fil caplus;s (l58 or l68) and pd<=november 1998

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	148.67	167.87

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-0.59	-0.59

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FILE COVERS 1967 - 2 Apr 2001 VOL 134 ISS 15

FILE LAST UPDATED: 1 Apr 2001 (20010401/ED)

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The CA Lexicon is now available in the Controlled Term (/CT) field. Enter HELP LEXICON for full details.


```
      15180717 PD<=NOVEMBER 1998
                  (PD<=19981199)
L97         35 (L58 OR L68) AND PD<=NOVEMBER 1998

=> d 1-35 cbib abs
```

L97 ANSWER 1 OF 35 CAPLUS COPYRIGHT 2001 ACS
1998:805685 Document No. 130:217556 Elevated free fosphenytoin concentrations in uremic serums: uremic toxins hippuric acid and indoxyl sulfate do not account for the impaired protein binding of fosphenytoin. Dasgupta, Amitava; Havlik, Dean (Department of Pathology and Laboratory Medicine, Houston Medical School, University of Texas, Houston, TX, 77030, USA). Ther. Drug Monit., 20(6), 658-662 (English) **1998**. CODEN: TDMODV. ISSN: 0163-4356. Publisher: Lippincott Williams & Wilkins.

AB Fosphenytoin is a new phosphate ester prodrug of phenytoin. Impaired protein binding of phenytoin in uremia has been extensively documented, which prompted us to investigate the protein binding of fosphenytoin in uremic sera. Also studied was the role of uremic toxins hippuric acid and indoxyl sulfate as potential inhibitor of the protein binding of fosphenytoin because these compds. impair protein binding of phenytoin in uremia. Five serum pools were prepd. from normal volunteers and five pools from patients with uremia. None of them received phenytoin. The normal serum pools were dild. with saline to mimic the albumin concn. of uremic pool. Both the dild. normal pool and the uremic pool were supplemented with fosphenytoin; after incubation at room temp. for 30 min, total and free fosphenytoin concns. as phenytoin equiv. were measured using fluorescence polarization immunoassay (Abbott Labs.; Abbott Park, IL, U.S.A.). The authors obsd. significantly elevated free fosphenytoin

concn. in uremic sera compared with that of normal sera in all cases. Because both normal and uremic sera had the same concns. of albumin, the elevated free fosphenytoin concn. in uremic sera was not caused by hypoalbuminemia. Both indoxyl sulfate and hippuric acid cause significant displacement of phenytoin from protein binding. In contrast, none caused any displacement of fosphenytoin from protein binding.

L97 ANSWER 2 OF 35 CAPLUS COPYRIGHT 2001 ACS
1998:365288 Document No. 129:24327 Occurrence of proteinuria after exposure to mercury at the workplace. Heinz, J.; Steinhoff, J.; Kessel, Richard (Inst. Arbeitsmedizin, Medizinische Univ. Luebeck, Luebeck, D-23538, Germany). Zentralbl. Arbeitsmed., Arbeitsschutz Ergon., 48(5), 182-187 (German) **1998**. CODEN: ZAAEEL. ISSN: 0944-2502. Publisher: Dr. Curt Haefner Verlag GmbH.
AB A group of workers exposed to Hg in a recycling plant was **analyzed** for early indicators for renal damage and dysfunction by **detg**. the urinary proteins .alpha.1-microglobulin, .**alpha**.2-**macroglobulin**, IgG, transferrin, albumin, .beta.2-microglobulin, and C-reactive protein. Hg concns. in the ambient air and those in the 24-h **urine** were measured. Some test persons showed increased proteinuria with and without transferrin. Most frequently the std. values for albumin and .alpha.1-microglobulin were exceeded. Only 1 person showed a close relation between the tubular parameter .alpha.1-microglobulin and the current exposure to Hg.

L97 ANSWER 3 OF 35 CAPLUS COPYRIGHT 2001 ACS
1998:162600 Document No. 128:305289 2-Sec-butyl-4,5-dihydrothiazole is a ligand for mouse urinary protein and rat .alpha.2u-globulin: physiological and toxicological relevance. Lehman-Mckeeman, Lois D.; Caudill, Douglas; Rodriguez, Pedro A.; Eddy, Cynthia (Miami Valley Laboratories, Human Safety Department, Procter and Gamble Co., Cincinnati, OH, 45253-8707, USA). Toxicol. Appl. Pharmacol., 149(1), 32-40 (English) **1998**. CODEN: TXAPA9. ISSN: 0041-008X. Publisher: Academic Press.
AB Mouse urinary protein (MUP) and .alpha.2u-globulin are structurally homologous proteins that belong to a superfamily of ligand-binding proteins and represent the **major urinary proteins** excreted by adult male mice and rats, resp. Although a variety of xenobiotics bind to .alpha.2u-globulin and produce a male rat-specific hyaline droplet nephropathy, no endogenous ligand for this protein has been **identified**. Despite extensive sequence homol., MUP does not bind to hyaline droplet-inducing agents. While performing expts. with purified MUP, we obsd. that it presented with a strong, distinctive odor reminiscent of mouse **urine**. To **det**. whether this odor was the result of contamination or degrdn. or was attributed to an endogenous ligand bound to the protein, the protein was subjected to thermal desorption and any released volatile compds. were detected with a gas chromatograph equipped with an external sniff port and mass spectrometer. With this approach, two odorous compds. were detected at the sniff port by a human observer, but only one was present in sufficient mass to allow **identification**. This compd., which presented with the characteristic odor, was subsequently **identified** as 2-s butyl-4,5-dihydrothiazole (DHT) by GC/MS/matrix

isolation IR and NMR **analyses**. The **identification** of DHT was confirmed by comparing the chromatog. and spectral properties to those of the synthesized authentic compd. In direct contrast, purified urinary .alpha.-2u-globulin did not present with an obvious odor, and no volatile ligands were detected on this protein. Although DHT is a major endogenous ligand for MUP, it was also found to competitively inhibit the binding of [14C]d-limonene-1,2-epoxide to .alpha.2u-globulin with relatively high affinity (Ki = 2.3 .mu.M). When dosed orally to F344 rats, DHT (1 mmol/kg for 3 days) caused the characteristic exacerbation of hyaline droplets in male rat kidneys and increased renal levels of immunoreactive .alpha.2u-globulin about threefold over control levels. These results indicate that despite structural homol., MUP and .alpha.2u-globulin are distinguished by the presence of a volatile endogenous ligand only on the former, a distinction that may reflect differences in the physiol. functions of the two proteins. Furthermore, although DHT can bind to both MUP and .alpha.2u-globulin, renal toxicity was only obsd. in rats, thereby emphasizing the unique toxicol. properties of .alpha.2u-globulin in the development of hyaline droplet nephropathy.

L97 ANSWER 4 OF 35 CAPLUS COPYRIGHT 2001 ACS
1997:460355 Document No. 127:133066 New strategies in screening **urine** for exclusion and differentiation of renal diseases by **analyzing** individual proteins. Guder, Walter G.; Hofmann, Walter (Institute of Clinical Chemistry, Bogenhausen Community Hospital, Munich, D-81925, Germany). Jugosl. Med. Biohem., 16(2), 69-75 (English) **1997**. CODEN: JMBIFF. ISSN: 0354-3447. Publisher: Drustvo Medicinskih Biohemicara Jugoslavije.

AB A quantification of renal proteins of different mol. size has been shown to be useful in characterizing the mechanism and medical causes of proteinuria. By **analyzing urine** albumin, .alpha.1-microglobulin, IgG and **.alpha.2-macroglobulin** together with total protein, prerenal, glomerular, tubular and postrenal cause of proteinuria can be detected and differentiated by their specific **urine** protein patterns. Using automated turbidimetric procedures prerenal proteinurias are characterized by an albumin/total protein ratio below 0.3. Tubulo-interstitial diseases, neg. in the test strip procedure are detected and clearly differentiated from other causes of proteinuria by their high .alpha.1-microglobulin/albumin ratios. In postrenal proteinuria, . **alpha.2-macroglobulin** proved to be a useful marker, when albumin excretion exceeds 100 mg/L **urine**. This protein exhibits plasma-like ratios to albumin in postrenal causes whereas it is much lower in renal proteinurias. The new strategy, which has been tested in more than 500 clin. and histochem. proven cases of renal diseases, more sensitively detects glomerular and tubulo- interstitial diseases when applied in **urine** screening and allows to sep. all clin. important causes from **anal**. of a morning spot **urine** sample.

L97 ANSWER 5 OF 35 CAPLUS COPYRIGHT 2001 ACS
1997:147508 Document No. 126:210405 Differential glycosylation of Bence-Jones protein and kidney impairment in patients with plasma cell

dyscrasia. Kagimoto, Tadashi; Nakakuma, Hideki; Hata, Hiroyuki; Hidaka, Michihiro; Horikawa, Kentaro; Kawaguti, Tatsuya; Nagakura, Shoichi; Iwamoto, Norihiro; Shirono, Kenji; et al. (College of Medical Science and the Second Department of Internal Medicine, Kumamoto University, KUMAMOTO, 862, Japan). J. Lab. Clin. Med., 129(2), 217-223 (English) **1997**. CODEN: JLCMAK. ISSN: 0022-2143. Publisher: Mosby-Year Book.

AB Although Bence Jones protein (BJP) is generally accepted to be critically involved in the pathogenic process of kidney impairment in patients with myeloma, patients with BJP do not always have kidney dysfunction. As proteins often undergo glycosylation and alter their mol. nature, it is expected that the heterogeneity in kidney dysfunction can be explained at least partly by the differential affinity to the kidneys of BJP dependent on its glycosylation. Accordingly, the authors biochem. **analyzed** the structures of carbohydrates of **urine** BJP to correlate the structure with kidney function. BJP was obtained from 16 patients with myeloma, 2 patients with light-chain amyloidosis, a patient with plasma-cell leukemia, and a patient with Waldenstrom's macroglobulinemia. All BJP had five forms of oligosaccharides: three forms of biantennary oligosaccharides and two forms of triantennaries. The three biantennaries correspond to previously reported oligosaccharides on only .lambda.-type BJP, whereas the triantennaries are novel oligosaccharides found on BJP. Among the five oligosaccharides, the triantennary oligosaccharide Gal.beta.1-4GlcNAc.beta.1-2Man.alpha.1-6{Gal.beta.1-4GlcNAc.beta.1-4(Gal.beta.1-4GlcNAc.beta.1-2)Man.alpha.1-3}Man.beta.1-4GlcNAc.beta.1-4GlcNAc showed a significant neg. correlation with the serum creatinine level. Thus **detn**. of BJP glycosylation may be useful for the evaluation of kidney impairment in patients with BJP.

L97 ANSWER 6 OF 35 CAPLUS COPYRIGHT 2001 ACS

1996:543041 Document No. 125:218814 The change of humoral immune, acute phase proteins and **urine** proteins in children with nephrotic syndrome. Xie, Wenguang; Wei, Yushu; Zhou, Liangyu (Dep. Pediatrics, Affiliated Hosp. North Sichuan Med. Coll., Nanchong, 637000, Peop. Rep. China). Zhongguo Mianyixue Zazhi, 12(1), 49-52 (Chinese) **1996**. CODEN: ZMZAEE. ISSN: 1000-484X.

AB Twenty proteins and 3 indicators in serum, and total protein (TP) and 11 proteins in **urine**, from NS (Nephrotic syndrome) patients were **detd**. In comparison with normal children, NS patients' serum contents of C5, C1-INH, IgM, HP, .alpha.2M and CIC increased very significantly, Pg increased significantly, C1q, IgG, ALB and Tf decreased very significantly, the activity of CH50 decreased significantly, and ESR was very notably high. The contents of **urine** TP and 11 proteins in acute phase of HS were higher than normal very significantly. When the condition was improving, these indicators reached normal range gradually. The results suggest that in NS patients, glomerular filtration membrane serves a double purpose in control of select of filtrate substance mol. wt. and elec. charge, and this selection function play a decisive role for the leakage content of different serum proteins.

L97 ANSWER 7 OF 35 CAPLUS COPYRIGHT 2001 ACS

1996:477536 Document No. 125:162675 Development and evaluation of a **urine** protein expert system [UPES]. Ivandic, Miroslav; Hofmann,

Walter; Guder, Walter G. (Inst. Klinische Chemie, Staedt. Krankenhaus Muenchen-Bogenhausen, Munich, D-81925, Germany). Clin. Chem. (Washington, D. C.), 42(8, Pt. 1), 1214-1222 (English) **1996**. CODEN: CLCHAU. ISSN: 0009-9147.

AB Based on the quant. **detn.** of creatinine, total protein, albumin, .alpha.1-microglobulin, IgG, .**alpha.2-macroglobulin**, and N-acetyl-.beta.,D-glucosaminidase in **urine** in combination with a test strip screening, the findings of hematuria, leukocyturia, and proteinuria can be assigned to prerenal, renal, or postrenal causes. By using this graded **diagnostic** strategy as a knowledge base, we developed a computer-based expert system for **urine** protein differentiation ("UPES") as a decision-supporting tool. The knowledge base was implemented as a combination of "if/then" rules and two-step bivariate distance classification of marker proteins. The knowledge for this form of pattern recognition was derived from the results for a set of 267 patients with clin. and histol. documented nephropathies. To **det.** the **diagnostic** value of UPES, we tested another set of data: results for 129 **urine analyses** from 94 patients. Using these data, the system reached 98% concordance with the clin. **diagnoses** for the patients and was superior to the **diagnostic** interpretation of 4 human experts. UPES was successfully integrated into the lab. routine process, including automated data import.

L97 ANSWER 8 OF 35 CAPLUS COPYRIGHT 2001 ACS

1996:352925 Document No. 125:31354 Clinical significance of urinary N-acetyl-.beta.-D-glucosaminidase measurement in patients with diabetes mellitus. Ye, Shandong; Zhu, Xixing (Endocrinology Department, Huashan Hospital, Shanghai Medical University, Shanghai, Peop. Rep. China). Shanghai Yixue, 19(2), 66-69 (Chinese) **1996**. CODEN: SIHSD8. ISSN: 0253-9934.

AB Urinary N-acetyl-.beta.-D-glucosaminidase (UNAG), urinary albumin excretion (UAE), urinary .beta.2-**macroglobulin** (U.beta.2-MG) and urinary glucose were measured in 105 patients with diabetes mellitus. The measurements of UNAG and UAE had similar sensitivity for early **diagnosis** of diabetic nephropathy (DN), among the patients with incipient DN, UNAG had significant pos. relationship with UAE, but not in patients with clin. DN, whether the U.beta.2-MG was normal or elevated, UNAG was not related to U.beta.2-MG. Among the three group patients whose 24 h urinary glucose were less than 5, 5 to 15 and more than 15 g, resp., the UNAG had no relationship with urinary glucose. The study indicated that UNAG can be used as a sensitivity index of screening incipient DN.

L97 ANSWER 9 OF 35 CAPLUS COPYRIGHT 2001 ACS

1996:276323 Document No. 124:309665 Development and validation of new screening tests for nephrotoxic effects. Price, R. G.; Taylor, S. A.; Chivers, I.; Arce-Tomas, M.; Crutcher, E.; Franchini, I.; Alinovi, R.; Cavazzini, S.; Bergamaschi, E.; et al. (Division Life Sciences, King's College London, London, W8 7AH, UK). Hum. Exp. Toxicol., 15(Suppl. 1), s10-19 (English) **1996**. CODEN: HETOEA. ISSN: 0960-3271.

AB Within the framework of an European Commission funded project, groups of industrial workers exposed to heavy metals (cadmium, mercury and lead) or

solvents were studied together with corresponding control groups. Eighty-one measurements were carried out on **urine** and serum samples and the scientific results together with individual questionnaire information were entered into a central database. Data obtained was assessed centrally and individually in subsidiary studies. The measurable contributions were assessed either singly or in combination, of smoking, gender, metal exposure and site, to nephrotoxicity. The potential value of each test as an indicator of nephrotoxicity was then assessed on the basis of sensitivity and specificity. A no. of new tests including prostaglandins and for extracellular matrix components were investigated as well as established tests for renal damage and dysfunction. The data obtained from this comprehensive study emphasizes the value of noninvasive biomarkers for the early detection of nephrotoxicity due to environmental toxins. The urinary profile varied with the type of environmental/occupational toxin. By careful selection of a small panel of markers they can be used to indicate the presence of renal damage, the principal region affected, and to monitor the progress of disease and damage. Biomarkers were also used to confirm and tentatively establish safe exposure levels to nephrotoxins.

L97 ANSWER 10 OF 35 CAPLUS COPYRIGHT 2001 ACS
1996:85851 Document No. 124:199493 **Determination** of a **urine** microprotein profile and its use in **diagnosis** and treatment of diabetic nephropathy. Huang, Peiwen; Zhang, Qinyi; Ni, Zhaohui; Zhang, Guisheng; Liu, Guoming (Renji Hospital, Shanghai Second Medical University, Shanghai, 200000, Peop. Rep. China). Shanghai Yixue, 18(10), 572-3, 576 (Chinese) **1995**. CODEN: SIHSD8. ISSN: 0253-9934.
AB The levels of .beta.-**macroglobulin** (.beta.-MG), .alpha.-**macroglobulin** (.alpha.-MG), transferrin, and retinol-binding protein (RBP) and NAG (N-acetyl-.beta.-D-glucosaminidase) activity **detd.** in the **urine** of patients with diabetes (group I; urinary protein excretion .gtoreq.30 mg dL-1 and group II; urinary protein excretion >30 mg dL-1) were significantly higher than that of the normal control group. There were pos. correlations between blood glucose, total cholesterol (T-Ch), blood urea nitrogen (BUN), serum creatinine (SCr) and RBP, NAG, and a pos. correlation between triglyceride (TG) and IgG was found.

L97 ANSWER 11 OF 35 CAPLUS COPYRIGHT 2001 ACS
1995:412954 Document No. 122:155762 Method of sample preparation for **urine** protein **analysis** with capillary electrophoresis. Liu, Cheng-Ming; Wang, Hann-Ping (Beckman Instruments, Inc., USA). PCT Int. Appl. WO 9502182 A1 **19950119**, 40 pp. DESIGNATED STATES: W: CA, JP; RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1994-US5631 19940518. PRIORITY: US 1993-91844 19930709.
AB Processes are provided for pretreating body fluid (e.g., **urine**) compns. and subsequently **analyzing** the pretreated body fluid compns. for **analytes** of interest esp. in clin. disease **diagnosis**. Processes for pretreating the compns. include providing a size exclusion gel having a mol. wt. fractionation range or a mol. wt. exclusion such that the size exclusion gel is capable of

excluding or fractionating the **analytes** of interest and then causing the compn. to contact the size exclusion gel to sep. the **analytes** from low-mol.-wt. compn. components which interfere with the sepn. and **anal.** of the **analytes** of interest. Processes for **analyzing** pretreated compns. include electrophoretic methods such as capillary zone electrophoresis which involve the sepn. and detection of **analytes** of interest. **Examples** are given of the **detn.** of proteins in the **urine** of patients with myeloma and **kidney disease.**

L97 ANSWER 12 OF 35 CAPLUS COPYRIGHT 2001 ACS
1995:119737 Document No. 122:53250 Pathogenesis of spontaneous nephrosis in mice. Urinary protein in nephrotic mice. Yamada, Kanae; Kurosawa, Tsutomu; Okamoto, Munehiro; Yue, Bing Fei; Mizuno, Shinya; Naiki, Masaharu
(Med. Sch., Osaka Univ., Suita, 565, Japan). Exp. Anim., 43(4), 527-34 (Japanese) **1994**. CODEN: JIDOAA. ISSN: 0007-5124.
AB There is a paucity of model animals for naturally occurring nephrosis. The nephrotic mouse strain, ICGN, found from ICR mouse colony at National Institute of Health could be one of the most suitable model for nephrosis.
We maintained the strain of mice which was originated from the hybrid between the nephrotic ICGN mice and ICR mice. Nephrosis is **diagnosed** with the presence of albumin band on SDS-PAGE of the **urine**. The detection of urinary albumin using SDS-PAGE could be valuable for early **diagnosis** of nephrosis in the mice. The total urinary protein concn. was **detd.** on the course of nephrosis. The nephrotic mice showed a slightly higher protein concn. between 2 and 6 days old as compared to control mice. Until 16 day old, it was maintained relatively low level. Thereafter, the total urinary protein increased gradually. However, the **diagnosis** of nephrosis with total urinary protein alone may be limited due to the **major urinary protein** which can be detected even in normal rodents.

L97 ANSWER 13 OF 35 CAPLUS COPYRIGHT 2001 ACS
1993:406453 Document No. 119:6453 **Identification** of a cell line that expresses a cell surface and a soluble form of the gp330/receptor-associated protein (RAP) Heymann nephritis antigenic complex. Orlando, Robert A.; Farquhar, Marilyn Gist (Div. Cell. Mol. Med., Univ. California San Diego, La Jolla, CA, 92093, USA). Proc. Natl. Acad. Sci. U. S. A., 90(9), 4082-6 (English) **1993**. CODEN: PNASA6. ISSN: 0027-8424.
AB Gp330 is a large glycoprotein located in clathrin-coated pits at the surface of the glomerular and **proximal tubule** epithelia in the rat kidney. It was originally **identified** as the target of autoimmune antibodies in Heymann nephritis (HN) and has since been shown to be a member of the low d. lipoprotein receptor gene family and to form a stable assocn. with receptor-assocd. protein (RAP), which together constitute the HN antigen complex (HNAC). Progress in defining the normal functions of gp330 as well as the mol. mechanisms of HN has been hampered by the lack of an available kidney cell line that expresses this protein. The authors here report the **identification** of a rat yolk sac carcinoma cell line (L2) that synthesizes HNAC and expresses it in coated pits at the cell surface.

Gp330 and RAP from L2 cells are immunol. identical to their kidney counterparts, and peptide maps of gp330 yielded identical peptide fragments. Characterization of the cell line revealed that there are 3.3 .times. 104 gp330 mols. per L2 cell and that the cells produce a sol. form of gp330 that is released into the medium. Heparin ligand blot **anal.** demonstrated that RAP but not gp330 binds heparin. By heparin affinity chromatog., gp330 and RAP co-purify, indicating that the glycosaminoglycan binding site within RAP is accessible when the subunit is complexed with gp330. These results indicate that the L2 cell line provides a valid and useful model for studies on the function of HNAC and the pathogenesis of HN.

L97 ANSWER 14 OF 35 CAPLUS COPYRIGHT 2001 ACS

1993:37111 Document No. 118:37111 Kinetics of plasma fibronectin in childhood. III. Plasma fibronectin values in idiopathic nephrotic syndrome. Oshizaka, Hiroyuki (Sch. Med., Niigata Univ., Niigata, 951, Japan). Niigata Igakkai Zasshi, 106(7), 654-9 (Japanese) **1992**. CODEN: NIGZAY. ISSN: 0029-0440.

AB Plasma fibronectin (p-FN) concns. of patients with idiopathic nephrotic syndrome (INS) were measured successively to **examine** correlations with progression of the illness. The p-FN values in INS were av. 442.8 .mu.g/mL which was markedly high. During the active period of illness, p-FN showed high values. While urinary protein was pos., p-FN concns. were even higher, av. 491.5 .mu.g/mL. There were strong correlations between p-FN concns. and total protein, serum albumin, total cholesterol, and **.alpha.2-macroglobulin.** There were no differences in p-FN values during remission between frequent relapsers and nonfrequent relapsers. The p-FN values were high at onset and they returned to normal ranges as symptoms improved to remission. The above results suggest that p-FN concn. may reflect activities of INS and is a significant factor for **prognosis** of the illness.

L97 ANSWER 15 OF 35 CAPLUS COPYRIGHT 2001 ACS

1991:161823 Document No. 114:161823 Role of kallikrein-kinin and renin-angiotensin-aldosterone systems in the development of hypertension in glomerulonephritis. Ryabov, S. I.; Kucher, A. G.; Kotovoi, Yu. O.; Kayukov, I. G. (I Leningr. Med. Inst., Leningrad, USSR). Klin. Med. (Moscow), 68(12), 22-5 (Russian) **1990**. CODEN: KLMIAZ. ISSN: 0023-2149.

AB The blood serum levels of pre-kallikrein, kallikrein, .alpha.1-antitrypsin, **.alpha.2-macroglobulin**, and kininase 1, and 24-h urinary secretion of kallikrein were **detd.** in humans with glomerulonephritis and developing arterial hypertension. Blood plasma levels of active and total renin were also **detd.** The degrdn. of kinins by kininase 1 and inhibition of kallikrein by .alpha.1-antitrypsin and **.alpha.2-macroglobulin** may have a pathogenic significance.

L97 ANSWER 16 OF 35 CAPLUS COPYRIGHT 2001 ACS

1989:590802 Document No. 111:190802 **Diagnostic** use of an **analysis** of urinary proteins by a practicable sodium dodecyl sulfate-electrophoresis method and rapid two-dimensional electrophoresis.

Lapin, Alexander; Gabl, Franz; Kopsa, Herbert (Inst. Klin. Chem. Laboratoriumsdiagn., Univ. Wien, Vienna, A-1090, Austria). Electrophoresis (Weinheim, Fed. Repub. Ger.), 10(8-9), 589-95 (English) **1989**. CODEN: ELCTDN. ISSN: 0173-0835.

AB Two methods suitable for routine clin. **analyses** of urinary proteins are presented and compared. The first is a horizontal SDS-PAGE technique, suitable for simultaneous **anal**. of 20 native urinary samples. This method uses polyacrylamide gradient gels, prepd. with a lab.-built gel casting device. The second method is a rapid two-dimensional electrophoresis procedure, combining cellulose acetate electrophoresis and SDS-electrophoresis. The first step uses a routine system (Chemetron), the second sepn. step followed by staining with Coomassie Brilliant Blue R is performed on the PhastSystem. The resulting two-dimensional patterns reveal urinary proteins distributed according to the 5-zone pattern of native proteins (albumin, .alpha.-, .alpha.2-, .beta.-, .gamma.-globulin) as well as to the logarithm of their mol. wts. **Examples** of (routine) **diagnoses** with a special interest in the monitoring of kidney transplant patients are shown.

L97 ANSWER 17 OF 35 CAPLUS COPYRIGHT 2001 ACS

1989:188760 Document No. 110:188760 A practicable two-dimensional electrophoretic method for routine **analysis** of urinary proteins. Lapin, Alexander (Inst. Klin. Chem. Laboratoriumsdiagn., Univ. Wien, Vienna, A-1090, Austria). J. Clin. Chem. Clin. Biochem., 27(2), 81-6 (English) **1989**. CODEN: JCCBDT. ISSN: 0340-076X.

AB A 2-dimensional electrophoretic method is described for the routine clin. **anal**. of urinary proteins. Cellulose acetate electrophoresis is used for the 1st dimension, and SDS electrophoresis for the 2nd dimension, the latter being performed together with gel staining (Coomassie Blue) on the Phast System. The sepn. media are supplied as ready-to-use materials.
The method is reliable and reproducible, and is complete within 100 min. The resulting 2-dimensional pattern of major proteinuria constituents is evaluated visually from the distribution according to mol. wt. (2nd dimension) and from the 5 zone pattern of cellulose acetate electrophoresis (1st dimension). Certain marker proteins specific for certain pathol. changes, as well as certain characteristic changes in protein spot constellation, can be more easily recognized and evaluated than in 1-dimensional SDS electrophoresis.

L97 ANSWER 18 OF 35 CAPLUS COPYRIGHT 2001 ACS

1985:108553 Document No. 102:108553 Studies on the **determination** of urinary lysozyme by enzyme immunoassay and its significance. Nakahara, Takashi; Ishikawa, Chieko; Togo, Hisahiro; Kozuki, Yoshitaka; Noma, Ikuzo (Cent. Clin. Lab., Takasago City Hosp., Takasago, Japan). Eisei Kensa, 33(5), 734-8 (Japanese) **1984**. CODEN: EIKEAS. ISSN: 0367-052X.

AB Studies were made on the method for the **detn**. of urinary lysozyme (I) by enzyme immunoassay based on the sandwich method with alk. phosphatase as a marker. The data obtained by the present method were compared with those obtained by the bacteriolysis method. In the present method a satisfactory std. curve was obtained with 16.5 mM of substrate and 60 min of reaction time. The present enzyme immunoassay **detd**. urinary I in the range from 50 to 100 ng/mL. Urinary I concn. was

increased in all renal diseases of children except idiopathic nephrosis syndrome. Urinary I concn. reflects the grade of renal diseases; thus, the effectiveness of treatment for renal diseases can be **detd.** by the **detn.** of urinary I concn. A change in I concn. in renal diseases could be found earlier than the change of .beta.2-**macroglobulin**, creatinine, and BUN concns.

L97 ANSWER 19 OF 35 CAPLUS COPYRIGHT 2001 ACS
1984:434910 Document No. 101:34910 Studies on tissue thromboplastic activity
assay method with a chromogenic substrate (S-2222). Fukuda, Chisako; Iijima, Kenji; Nakamura, Katsumi (Coll. Med. Care Technol., Tottori Univ., Yonago, 683, Japan). Rinsho Byori, 32(3), 313-16 (Japanese) **1984**. CODEN: RBYOAI. ISSN: 0485-1404.
AB Thromboplastin was **detd.** by colorimetry at 405 nm with S-2222 (Bz-Ile-Glu-Gly-Arg-p-nitroaniline), which liberates p-nitroaniline in proportion to coagulation factor Xa. The **detn.** was simple, rapid, and superior to conventional methods in sensitivity. Anti-thrombin III inhibited the liberation of p-nitroaniline, but .alpha.1-antitrypsin and .**alpha.2-macroglobulin** did not affect the **detn.** Urinary thromboplastin was increased in juvenile patients with renal disease.

L97 ANSWER 20 OF 35 CAPLUS COPYRIGHT 2001 ACS
1983:554626 Document No. 99:154626 Applications of Fast Protein Liquid Chromatography in the separation of plasma proteins in **urine** and cerebrospinal fluid. Cooper, E. H.; Turner, R.; Johns, E. A.; Lindblom, H.; Britton, V. J. (Unit Cancer Res., Univ. Leeds, LS2 9JT, UK). Clin. Chem. (Winston-Salem, N. C.), 29(9), 1635-40 (English) **1983**. CODEN: CLCHAU. ISSN: 0009-9147.
AB Fast Protein Liq. Chromatog. (FPLC), in which an anion-exchange column is used, provides rapid sepn. and reproducible profiling of the plasma proteins in **urine** and cerebrospinal fluid (CSF). Chromatog. sepn. of the proteins takes 1 h for **urine** specimens and 45 min for CSF. The elution sequence from the anion-exchange column is similar to the electrophoretic mobility. Individual proteins have the same retention times independently of which type of specimen is used. The elution characteristics of 21 plasma proteins were **identified.** Some applications of this system are illustrated, including the profiling of tubular proteinuria, the isolation of Bence-Jones proteins from **urine**, and the investigation of Hb-derived products in the CSF.

L97 ANSWER 21 OF 35 CAPLUS COPYRIGHT 2001 ACS
1980:510115 Document No. 93:110115 A simple radial diffusion technique for measuring selectivity of proteinuria. Jones, B. M.; Hua, A. S. P. (Dep. Pathol., Queen Mary Hosp., Hong Kong, Hong Kong). J. Clin. Pathol., 33(6), 598-9 (English) **1980**. CODEN: JCPAAK. ISSN: 0021-9746.
AB Protein selectivity was **detd.** in patients with proteinuria by radial immunodiffusion with gels contg. 2% agar in 0.1M glycine-EDTA (pH 7.0), 0.1% NaN3, and rabbit anti-human transferrin or rabbit anti-human .**alpha.2-macroglobulin** antiserum. The precipitin ring diams. were measured, and the Protein Selectivity Index (K) was calcd. **Urine**/serum transferrin and **urine**/serum .**alpha.2-macroglobulin** were

detd. by drawing a calibration curve of precipitin ring diam. (arithmatic scale) against the reciprocal of the serum diln. (log scale). Patients with K values <1.9 had nonselective proteinuria, whereas K values .gtoreq.1.9 showed selective proteinuria. **Urine** from several patients with selective proteinuria contained no demonstrable . **alpha.2-macroglobulin** and, in these cases, K = .infin. (i.e., highly selective). The method is sensitive, inexpensive, and more precise than agar gel double diffusion. The method is useful in the evaluation of patients with nephritis.

L97 ANSWER 22 OF 35 CAPLUS COPYRIGHT 2001 ACS

1979:589013 Document No. 91:189013 Application of sodium dodecyl sulfate polyacrylamide gel electrophoresis to fractionation of **urine.** II. Qualitative estimation of each band and percentage of transferrin clearance. Sano, Kiyoko; Kanamori, Kiyoko; Yoshida, Junko; Cho, Hiroko; Hosaki, Seijin (Hosp., Tokyo Coll. Med. Dent., Tokyo, Japan). Seibutsu Butsuri Kagaku, 22(4), 285-9 (Japanese) **1979.** CODEN: SBBKA4. ISSN: 0031-9082.

AB **Urine** from normal humans was fractionated into 21 bands by Na dodecyl sulfate polyacrylamide gel electrophoresis. The following bands were **identified**: band 2, **.alpha.2-macroglobulins**; band 9, 2H + L chains of Igs; band 10, transferrin; band 11, albumins; band 13, H chain of Igs; band 17, L chain of Igs; and band 20, .beta.2-microglobulins. This method may be used in the **detn.** of urinary contents of transferrin, an indicator for glomerulonephritis.

L97 ANSWER 23 OF 35 CAPLUS COPYRIGHT 2001 ACS

1979:572916 Document No. 91:172916 Urinary protein **analysis** and its significance in the **diagnosis** of renal diseases. Slovacek, R.; Lukes, J.; Slaby, P. (Lek. Fak., Univ. Karlova, Plzen, Czech.). Cesk. Pediatr., 34(5), 271-3 (Czech) **1979.** CODEN: CEPEA3. ISSN: 0069-2328.

AB Na dodecylsulfate (SDS) polyacrylamide gel electrophoresis was useful in the differentiation of glomerular and tubular proteinuria. Immunofixation by specific antiserums showed that several serum proteins partially dissocd. in the presence of SDS (e.g., **.alpha.2-macroglobulin** and IgM). This limits the selectivity of this method.

L97 ANSWER 24 OF 35 CAPLUS COPYRIGHT 2001 ACS

1979:2576 Document No. 90:2576 Two-dimensional immunoelectrophoresis applied to the study of proteinurias. Pantano, Emanuele; De Jaco, Mario (Lab. Anal. Chim.-Clin. Microbiol., Osp. Civ. Piacenza, Piacenza, Italy). Ric. Clin. Lab., 8(Suppl. 1), 269-72 (English) **1978.** CODEN: RCLADN. ISSN: 0390-5748.

AB Two-dimensional immunoelectrophoresis (IE) of non-concd. **urine** was employed, using immune anti-plasma serum proteins, in an attempt to decrease the **anal.** time required for concg. **urine.** **Urine** was collected in NaN3, 1st sepd. by electroimmunodiffusion by the Laurell method, then dild. if necessary to bring the albumin concn.

to 5 mg%. This concn. of **urine** then was subjected to 2-dimensional IE on agarose using barbital buffer, pH 8.6. In physiol. proteinuria, small quantities (5 mg%) of albumin and traces of .alpha.1-antitrypsin and transferrin were obsd. In selective proteinuria, in **urine** the albumin conc. was >5 mg%; and a marked peak of transferrin, 1-2 peaks in the .alpha.1-region (.alpha.1-antitrypsin and .alpha.1-acid glycoprotein), and haptoglobin in the .alpha.2-area were obsd. Patterns also are shown for non-selective glomerular proteinuria. The method enables one to evaluate selectively glomerular proteinurias without concn. of **urine**, and is inexpensive since it requires only small quantities of antiserum (40 .mu.L).

L97 ANSWER 25 OF 35 CAPLUS COPYRIGHT 2001 ACS
1977:185390 Document No. 86:185390 New approach to evaluation of proteinuric states. Ellis, Demetrius; Buffone, Gregory J. (Sch. Med., George Washington Univ., Washington, D. C., USA). Clin. Chem. (Winston-Salem, N. C.), 23(4), 666-70 (English) **1977**. CODEN: CLCHAU.

AB The use of immunonephelometric methods for measuring specific urinary proteins was evaluated. Using a nephelometer to detect light scattering (angle, 31.degree.), some proteins were **detd.** immunonephelometrically in serum and aliquots of 24-h **urines** from 50 apparently healthy children, ages 2-17 years. The mean urinary excretion rate (mg/24 h) and the range of values was: for albumin 5.5 (range, 0-13.3), for transferrin0.5 (0-1.9), for IgG 3.3 (0-12), and for **alpha.2-macroglobulin** 0.6 (0-2.3). Direct comparison of the values for pathol. **urines** with those for a ref. population may offer more meaningful information concerning the integrity of the glomerular basement membrane than is provided by protein selectivity indices, and measuring a plasma protein such as albumin in **urine** may better define pathol. proteinuria.

L97 ANSWER 26 OF 35 CAPLUS COPYRIGHT 2001 ACS
1977:28266 Document No. 86:28266 Study of some serum and urinary proteins during Masugi nephritis in the rat. Versavel, Ch.; Dudragne, D.; De Vonne, T. Lebreton; Mouray, H. (Lab. Biochim., Fac. Med., Tours, Fr.). Comp. Biochem. Physiol. A, 55(3A), 231-6 (English) **1976**. CODEN: CBPAB5.

AB Sephadex G-200 chromatog. of **urine** from pubescent and prepubescent rats with and without induced Masugi nephritis produced excluded and diffused fractions; a third peak appeared in pathol. cases only. Max. absorbance of the 2 first peaks was unrelated to the total proteinuria which varied during the exptl. disease course. Quant. **anal.** of the total proteinemia and .alpha.-**macroglobulins** did not differ in normal and nephritic rat serum, but albumin and .beta.- and .gamma.-globulins were decreased in nephritis. The presence of a prealbumin in prepubescent rat serum indicated an age effect on Masugi nephritis symptoms.

L97 ANSWER 27 OF 35 CAPLUS COPYRIGHT 2001 ACS
1976:519031 Document No. 85:119031 Serum and urinary protein **analysis** by SDS-PAA electrophoresis combined with immunoprecipitation: dimer albumin in the nephrotic syndrome. Boesken,

Wolf H.; Noller, Edmund (Med. Univ. Clin., Freiburg/Br., Ger.). Protides Biol. Fluids, Proc. Colloq., Volume Date 1975, 23, 437-40 (English) **1976**. CODEN: PBFPA6.

AB Methods are described for obtaining serum protein mol. wt. patterns in different nephropathies. When comparing normal with nephrotic serums by Na dodecyl sulfate (SDS)-polyacrylamide (PAA) gel electrophoresis, the nephrotic serums, besides showing a selective loss of albumins, transferrin, and proteins smaller than 7 S immunoglobulin, contained a higher percent of macroproteins such as immunoglobulins, **.alpha.2-macroglobulins**, and lipoproteins as compared to normal serums. In .apprx.40 of 600 **urines** and in all of 20 corresponding serums, a protein was detected that was not present in normal serums or in most lower unselective glomerular proteinurias; this protein, representing .apprx.10-15% of the urinary or serum proteins, was **identified** as albumin dimer by several immunol. techniques. Histochem. studies of the pathol. of the albumin dimer are discussed.

L97 ANSWER 28 OF 35 CAPLUS COPYRIGHT 2001 ACS

1974:92816 Document No. 80:92816 Electroimmunodiffusion study of serum protein renal clearance in **urine** without concentration. Barral de Pizzolato, Maria; Pizzolato, Marco A. (Dep. Anal. Clin., Hosp. Esc. "Jose de San Martin", Buenos Aires, Argent.). Rev. Asoc. Bioquim. Argent., 38(205-206), 49-53 (Spanish) **1973**. CODEN: RABAAO.

AB Various electrophoretic and immunoelectrophoretic methods for **detg**. the degree of selectivity of proteinurias were described, and the **diagnostic** and **prognostic** values of serum protein renal clearances in the evaluation of glomerular damage in the nephrotic syndrome were **analyzed**. The electroimmunodiffusion technique for the **detn**. of **.alpha.2-macroglobulin** and albumin in serum and **urine** without concn. was described, and the correlation between the Cameron index and the ratio of clearances of **.alpha.2-macroglobulin**/albumin in relation to the histol. picture in nephrotic patients was demonstrated.

L97 ANSWER 29 OF 35 CAPLUS COPYRIGHT 2001 ACS

1974:12060 Document No. 80:12060 Albumin and **.alpha.-2-macroglobulin** clearance. New approaching method for studying selectivity of proteinuria in unconcentrated **urine**. Brancaccio, D.; Rivolta, E.; Graziani, G.; Pizzolato, M. (Inst. Urol., Univ. Milan, Milan, Italy). Nephron, 12(2), 150-6 (English) **1973**. CODEN: NPRNAY.

AB Albumin and **.alpha.2-macroglobulin** clearances were investigated in unconcd. **urine** samples by Laurell's technique (rocket electrophoresis on cellulose acetate gel) in order to assess the adaptability of the method in clin. practice. In 37 patients with glomerular proteinuria, **.alpha.2-macroglobulin**/albumin and immunoglobulin G/transferrin clearance ratios were compared. The correlation was satisfactory in all histol. groups considered, with the exception of focal glomerulosclerosis and amyloidosis.

L97 ANSWER 30 OF 35 CAPLUS COPYRIGHT 2001 ACS

1973:464192 Document No. 79:64192 **Analysis** of urinary protein. Wakashin, Masafumi; Narita, Mitsuharu (Sch. Med., Chiba Univ., Chiba, Japan). Rinsho Byori, 21(3), 248-52 (Japanese) **1973**. CODEN:

RBYOAI.

AB Immunoglobulins (Ig) G, A and their fragments were detected and **identified** by gel filtration (Sephadex G-200), the Ouchterlony method, immunoelectrophoresis, and ultracentrifugation as normal urinary proteins. These antibody mols. and fragments were considered to have originated in serum. Various antigens originating from the **kidney tissue** were also found in normal **urine**. Upon **examg**. the **urine** of patients with kidney disorders, a IgG clearance/IgA clearance ratio of <2.0 tended to indicate cases that were difficult to treat. Furthermore, IgM (19 S), and esp. .**alpha** .**2-macroglobulin** (18.05 S) and .gamma.-**macroglobulin** were const. found in patients' **urine**. The relation of the presence and the level of these abnormal urinary proteins to various kidney disorders was discussed.

L97 ANSWER 31 OF 35 CAPLUS COPYRIGHT 2001 ACS

1973:464191 Document No. 79:64191 Comparison between immunochemical and physical chemical **analyses** of the molecular size of urinary proteins. Van Oss, Carel J.; Hawking, Mary K.; Bronson, Paul M. (Sch. Med., State Univ. New York, Buffalo, N. Y., USA). Biochem. Med., 7(3), 466-72 (English) **1973**. CODEN: BIMDA2.

AB In patients with nephrotic syndrome, immunochem. tests showed . **alpha.2-macroglobulin** in the **urine** of 17 of 29 and immunoglobulin G in 6 of 11. Phys.-chem. tests showed only fragments of these proteins, with mol. wts. between 50,000 and 100,000.

L97 ANSWER 32 OF 35 CAPLUS COPYRIGHT 2001 ACS

1971:30255 Document No. 74:30255 **Analysis** of the proteinuria. 1. Excretion of plasma components in the **urine**. Takayanagi, Nobutatsu; Iwaki, Mamoru; Hongo, Tadahiko (Clin. Lab., Toyama City Hosp., Toyama, Japan). Rinsho Byori, 18(8), 575-8 (Japanese) **1970**. CODEN: RBYOAI.

AB Characteristics in urinary protein pattern were **examd**. immunol. and electrophoretically of 75 patients with various renal disorders, in connection with clin. observations. A correlation was found between the severity of the disorders and changes in pattern of proteinuria. Leakage of many kinds of plasma proteins into **urine**, esp. of high-mol.-wt. protein such as .**alpha.2-macroglobulin**, 19 S .gamma.-globulin (IgM), and .beta.1-lipoprotein, was marked in patients with severe renal disorder. An increase of .gamma.2-globulin (IgG) was found in **urine** in such patients, esp. in patients with collagen diseases, in whom the av. ratio albumin/IgG ratio was 2.9. The presence of anti-renal antibody activity was demonstrated in **urine** of such patients by immunoelectrophoresis and double diffusion.

L97 ANSWER 33 OF 35 CAPLUS COPYRIGHT 2001 ACS

1970:507504 Document No. 73:107504 Serum and urinary proteins, lysozyme (muramidase), and renal dysfunction in mono- and myelomonocytic leukemia. Pruzanski, W.; Platts, M. E. (Immunoproteins Res. Lab., Univ. Toronto, Toronto, Can.). J. Clin. Invest., 49(9), 1694-1708 (English) **1970**. CODEN: JCINAO.

AB Serum levels, urinary excretion, and clearances of several proteins of different mol. wts. were studied in 18 patients with mono- and myelomonocytic leukemia. Nine patients had normal renal function (group

A) and 9 had impaired renal function with azotemia (group B). The majority of patients in both groups had increased concn. of immunoglobulins, esp. IgG, IgA, and IgM; IgD level was normal. Serum transferrin and **.alpha.2-macroglobulin** were frequently reduced while the level of ceruloplasmin was often increased, esp. in patients with azotemia. The activity of lysozyme in the serum was high in all patients, but was considerably higher in group B. Proteinuria was found in most patients but was more prominent in group B. Almost invariably albumin constituted less than 25% of the total protein excreted. Qual. **anal**. of various urinary proteins by immunochem. techniques and clearance studies suggested the presence of glomerular as well as tubular dysfunction. **Detn**. of urinary lysozyme frequently showed no direct correlation between the serum level of the enzyme and its concn. in the **urine** or its clearance by the kidney. In addn. to glomerular filtration, impaired tubular reabsorption may account for the high level of lysozyme in the **urine**. The very high level of lysozyme in the glomerular filtrate and possibly hypergamma-globulinemia may play a role in the induction of tubular damage. Renal impairment was correlated with histol. changes in the kidneys. From a comparative study of various leukemias, it seems that the combined glomerular-tubular dysfunction is a manifestation unique to mono- and myelomonocytic leukemia.

L97 ANSWER 34 OF 35 CAPLUS COPYRIGHT 2001 ACS
1969:94859 Document No. 70:94859 Proteinuria after albumin infusion in patients with renal disease. Marchena, Carlos; Becker, E. Lovell (New York Hosp., New York, N. Y., USA). Proc. Soc. Exp. Biol. Med., 129(3), 951-4 (English) **1968**. CODEN: PSEBAA.
AB Urinary protein excretion in patients with proteinuria was studied by using an immunopptn. technique. Six protein fractions were **detd**. with specific antisera to orosomucoid, albumin, transferrin, 7 S .gamma.-globulin, .gamma.1A-globulin, and .alpha.2M-globulin. I.v. infusion of salt-poor albumin (25 g.) increased the total amt. of protein in the **urine** while the protein selectivity pattern was const. before, during, and after the albumin infusion.

L97 ANSWER 35 OF 35 CAPLUS COPYRIGHT 2001 ACS
1967:63642 Document No. 66:63642 Turnover of **.alpha.2-macroglobulins** in the nephrotic syndrome. Kluthe, Reinhold; Hagemann, U.; Kleine, Norbert (Med. Univ. Poliklin., Freiburg/Breisgau, Ger.). Vox Sang., 12(4), 308-11 (English) **1967**. CODEN: VOSAAD.
AB cf. CA. 65, 5998f. A high concn. of **.alpha.2-macroglobulins** is a typical finding in the nephrotic syndrome. Human **.alpha.2-macroglobulins**, 131I-labeled, were injected i.v. into 6 normal subjects and 6 nephrotics (5 with chronic glomerulonephritis and 1 with amyloid nephrosis), and the rate of decay of **.alpha.2-macroglobulin** radioactivity was estd. Results of this and other **detns**. indicated that the excretion of **.alpha.2-macroglobulins** into the **urine** is negligible in active nephrosis and that the abs. catabolic rate of **.alpha.2-macroglobulins**

lies within normal limits. If a balanced protein metabolism is assumed, the synthesis of **.alpha.2-macroglobulins** must be normal, and the elevation of this fraction in the serum would appear to be the result of more extensive excretions of proteins with smaller mol. wts.

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k)/au,in

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           547 HONDA A?/AU
           186 HONDA A?/IN
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            71 HASE H?/IN
           220 SUGAYA T?/AU
            70 SUGAYA T?/IN
           618 KIMURA K/AU
             0 KIMURA K/IN
L98          0 (YAMANOUCHI M? AND HONDA A? AND HASE H? AND SUGAYA T? AND
KIMURA
               K)/AU,IN

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ANSWER 7 OF 7 MEDLINE
AN 91170283 MEDLINE
DN 91170283
TI Primary structure and cellular distribution of two fatty acid-binding proteins in adult rat kidneys.
AU Kimura H; Odani S; Nishi S; Sato H; Arakawa M; Ono T
CS Department of Biochemistry, Niigata University School of Medicine, Japan..
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1991 Mar 25) 266 (9) 5963-72.
Journal code: HIV. ISSN: 0021-9258.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Cancer Journals
EM 199106
AB Fatty acid-binding proteins (FABPs) were purified from the kidneys of female and male rats and characterized by primary structure and histological distribution in the kidney. Two FABPs (14 and 15.5 kDa) were found in male rat kidney cytosol whereas only 14-kDa FABP could be recognized in female rat kidneys throughout the purification steps. The amino acid sequence of the 14-kDa FABP was identical to that of rat **heart** FABP deduced from the cDNA sequence (Heuckeroth, R. O., Birkenmeier, E. H., Levin, M. S., and Gordon, J. I. (1987) J. Biol. Chem. 262, 9709-9717). Structural analysis of the male-specific 15.5-kDa FABP identified this second FABP as a proteolytically modified form of alpha 2u-globulin, an 18.7-kDa **major urinary protein** of adult male rats (Unterman, R. D., Lynch, K. R., Nakhasi, H. L., dolan, K. P., Hamilton, J. W., Cohn, D. V., and Feigelson, P. (1981) Proc. Natl. Acad. Sci. U.S.A. 78, 3478-3482) which shares a common ancestry with a number of hydrophobic ligand-binding proteins such as serum retinol-binding proteins. Immunohistochemical investigation disclosed that **heart**-type FABP (14-kDa FABP) is localized in the cytoplasm of the epithelia of the distal tubules in both male and female rat kidneys whereas 15.5-kDa FABP immunostaining was observed predominantly in the endosomes or lysosomes of proximal tubules in male rat kidneys. These results suggest strongly the functional divergence of two FABPs in the rat kidney.
CT Check Tags: Animal; Female; Male; Support, Non-U.S. Gov't
Amino Acid Sequence
*Carrier Proteins: ME, metabolism
Chromatography, Gel
Chromatography, High Pressure Liquid
Electrophoresis, Polyacrylamide Gel
Immunohistochemistry
*Kidney: ME, metabolism
Kidney: UL, ultrastructure
Microscopy, Electron
Molecular Sequence Data
Myocardium: ME, metabolism
Rats
Sequence Alignment
Sex Factors
CN 0 (fatty acid-binding proteins); 0 (Carrier Proteins)

ANSWER 7 OF 7 MEDLINE
AN 91170283 MEDLINE
DN 91170283
TI Primary structure and cellular distribution of two fatty acid-binding proteins in adult rat kidneys.
AU Kimura H; Odani S; Nishi S; Sato H; Arakawa M; Ono T
CS Department of Biochemistry, Niigata University School of Medicine, Japan..
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1991 Mar 25) 266 (9) 5963-72.
Journal code: HIV. ISSN: 0021-9258.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Cancer Journals
EM 199106
AB Fatty acid-binding proteins (FABPs) were purified from the kidneys of female and male rats and characterized by primary structure and histological distribution in the kidney. Two FABPs (14 and 15.5 kDa) were found in male rat kidney cytosol whereas only 14-kDa FABP could be recognized in female rat kidneys throughout the purification steps. The amino acid sequence of the 14-kDa FABP was identical to that of rat **heart** FABP deduced from the cDNA sequence (Heuckeroth, R. O., Birkenmeier, E. H., Levin, M. S., and Gordon, J. I. (1987) J. Biol. Chem. 262, 9709-9717). Structural analysis of the male-specific 15.5-kDa FABP identified this second FABP as a proteolytically modified form of alpha 2u-globulin, an 18.7-kDa **major urinary protein** of adult male rats (Unterman, R. D., Lynch, K. R., Nakhasi, H. L., dolan, K. P., Hamilton, J. W., Cohn, D. V., and Feigelson, P. (1981) Proc. Natl. Acad. Sci. U.S.A. 78, 3478-3482) which shares a common ancestry with a number of hydrophobic ligand-binding proteins such as serum retinol-binding proteins. Immunohistochemical investigation disclosed that **heart**-type FABP (14-kDa FABP) is localized in the cytoplasm of the epithelia of the distal tubules in both male and female rat kidneys whereas 15.5-kDa FABP immunostaining was observed predominantly in the endosomes or lysosomes of proximal tubules in male rat kidneys. These results suggest strongly the functional divergence of two FABPs in the rat kidney.
CT Check Tags: Animal; Female; Male; Support, Non-U.S. Gov't
Amino Acid Sequence
*Carrier Proteins: ME, metabolism
Chromatography, Gel
Chromatography, High Pressure Liquid
Electrophoresis, Polyacrylamide Gel
Immunohistochemistry
*Kidney: ME, metabolism
Kidney: UL, ultrastructure
Microscopy, Electron
Molecular Sequence Data
Myocardium: ME, metabolism
Rats
Sequence Alignment
Sex Factors
CN 0 (fatty acid-binding proteins); 0 (Carrier Proteins)

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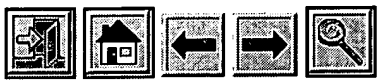

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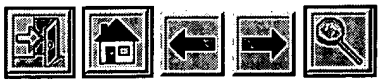

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Updated Search VC 4/14/03

L4 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2003 ACS
AN 1999:359733 CAPLUS
DN 130:349390
TI Method for examining **kidney diseases**.
IN Yamanouchi, Masaya; Honda, Akiko; Uchida, Hiromi; Sugaya, Takeshi; Kimura, Kenjiro
PA Tanabe Seiyaku Co., Ltd., Japan
SO PCT Int. Appl., 31 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
IC ICM G01N033-53
CC 9-10 (Biochemical Methods)
Section cross-reference(s): 14, 15
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9927363	A1	19990603	WO 1998-JP5319	19981126
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
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PRAI JP 1997-323684	A	19971126		
WO 1998-JP5319	W	19981126		

AB A diagnostic method is described for examg. **kidney diseases** by immunol. detecting a fatty acid-binding protein derived from **kidney** tissues contained in the specimen sampled from mammals other than rodents. This method can provide examn. results contg. information highly useful in diagnosing the prognosis of **kidney diseases** hardly obtained by the existing methods. Based on the results obtained by this method, an appropriate therapy can be selected by taking the risk concerning the prognosis into consideration. This method is applicable not only to **kidney** tissue samples, but also to urine samples, and therefore, the examn. can be conveniently and efficiently performed.
ST **kidney disease** diagnosis prognosis immunoassay staining; fatty acid binding protein renal failure
IT Proteins, specific or class
RL: ANT (Analyte); BUU (Biological use, unclassified); PUR (Purification or recovery); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(FABP (fatty acid-binding protein); method for examg. **kidney diseases**)
IT **Kidney, disease**
(IgA nephropathy; method for examg. **kidney diseases**)
IT Proteins, specific or class
RL: ANT (Analyte); BUU (Biological use, unclassified); PUR (Purification or recovery); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(L-FABP (**liver fatty acid-binding protein**), human, mouse, rabbit; method for examg. **kidney diseases**)
IT Proteins, specific or class

L4 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2003 ACS
AN 1999:359733 CAPLUS
DN 130:349390
TI Method for examining **kidney diseases**.
IN Yamanouchi, Masaya; Honda, Akiko; Uchida, Hiromi; Sugaya, Takeshi; Kimura, Kenjiro
PA Tanabe Seiyaku Co., Ltd., Japan
SO PCT Int. Appl., 31 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
IC ICM G01N033-53
CC 9-10 (Biochemical Methods)
Section cross-reference(s): 14, 15
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9927363	A1	19990603	WO 1998-JP5319	19981126
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
PRAI JP 1997-323684	A	19971126		
WO 1998-JP5319	W	19981126		

AB A diagnostic method is described for examg. **kidney diseases** by immunol. detecting a fatty acid-binding protein derived from **kidney** tissues contained in the specimen sampled from mammals other than rodents. This method can provide examn. results contg. information highly useful in diagnosing the prognosis of **kidney diseases** hardly obtained by the existing methods. Based on the results obtained by this method, an appropriate therapy can be selected by taking the risk concerning the prognosis into consideration. This method is applicable not only to **kidney** tissue samples, but also to urine samples, and therefore, the examn. can be conveniently and efficiently performed.
ST **kidney disease** diagnosis prognosis immunoassay staining; fatty acid binding protein renal failure
IT Proteins, specific or class
RL: ANT (Analyte); BUU (Biological use, unclassified); PUR (Purification or recovery); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(FABP (fatty acid-binding protein); method for examg. **kidney diseases**)
IT **Kidney, disease**
(IgA nephropathy; method for examg. **kidney diseases**)
IT Proteins, specific or class
RL: ANT (Analyte); BUU (Biological use, unclassified); PUR (Purification or recovery); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(L-FABP (**liver fatty acid-binding protein**), human, mouse, rabbit; method for examg. **kidney diseases**)
IT Proteins, specific or class

RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(MUP (major urinary protein); method for examg. **kidney diseases**)

IT Antibodies
RL: ARG (Analytical reagent use); BPN (Biosynthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(anti-mouse L-FABP, anti-mouse H-FABP, anti-human L-FABP,; method for examg. **kidney diseases**)

IT **Kidney**
(distal tubule; method for examg. **kidney diseases**)

IT Immunoassay
(enzyme-linked immunosorbent assay; method for examg. **kidney diseases**)

IT **Kidney, disease**
(failure; method for examg. **kidney diseases**)

IT Basement membrane
(glomerular; method for examg. **kidney diseases**)

IT Phosphoproteins
RL: ANT (Analyte); BUU (Biological use, unclassified); PUR (Purification or recovery); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(h-FABP (heart fatty acid-binding protein), mouse; method for examg. **kidney diseases**)

IT Immunoassay
(immunol. staining; method for examg. **kidney diseases**
)

IT **Kidney, disease**
(interstitial fibrosis; method for examg. **kidney diseases**)

IT Blood analysis
Diagnosis
Disease models
Kidney
Kidney, disease
Mammal (Mammalia)
Mouse
Polyacrylamide gel electrophoresis
Prognosis
Rat
Rodent
Test kits
Therapy
Urine analysis
(method for examg. **kidney diseases**)

IT **Kidney**
(proximal tubule; method for examg. **kidney diseases**
)

IT 9012-33-3, N-Acetyl-.beta.-D-glucosaminidase
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(method for examg. **kidney diseases**)

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Sumitomo Chemical Co, Ltd; JP 05-333025 A1 1993 CAPLUS
(2) Uchida; Febs Lett 1995, V357(2), P165 CAPLUS

RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(MUP (major urinary protein); method for examg. **kidney diseases**)

IT Antibodies
RL: ARG (Analytical reagent use); BPN (Biosynthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(anti-mouse L-FABP, anti-mouse H-FABP, anti-human L-FABP,; method for examg. **kidney diseases**)

IT **Kidney**
(distal tubule; method for examg. **kidney diseases**)

IT Immunoassay
(enzyme-linked immunosorbent assay; method for examg. **kidney diseases**)

IT **Kidney, disease**
(failure; method for examg. **kidney diseases**)

IT Basement membrane
(glomerular; method for examg. **kidney diseases**)

IT Phosphoproteins
RL: ANT (Analyte); BUU (Biological use, unclassified); PUR (Purification or recovery); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(h-FABP (heart fatty acid-binding protein), mouse; method for examg. **kidney diseases**)

IT Immunoassay
(immunol. staining; method for examg. **kidney diseases**)

IT **Kidney, disease**
(interstitial fibrosis; method for examg. **kidney diseases**)

IT Blood analysis
Diagnosis
Disease models
Kidney
Kidney, disease
Mammal (Mammalia)
Mouse
Polyacrylamide gel electrophoresis
Prognosis
Rat
Rodent
Test kits
Therapy
Urine analysis
(method for examg. **kidney diseases**)

IT **Kidney**
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L5 ANSWER 21 OF 23 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1989:216021 BIOSIS
DN BR36:105235
TI ANALYSIS OF **LIVER FATTY ACID BINDING PROTEIN** IMMUNOREACTIVITY IN COLORECTAL ADENOCARCINOMAS AND ADENOMAS A COMPARISON WITH CARCINOMAS ARISING IN OTHER SITES.
AU CARROLL S L; GORDON J I; ROTH K A
CS DEP. PATHOL., WASHINGTON UNIV. SCH. MED., ST. LOUIS, MO., USA.
SO ANNUAL MEETING OF THE UNITED STATES AND CANADIAN ACADEMY OF PATHOLOGY (UNITED STATES-CANADIAN DIVISION OF THE INTERNATIONAL ACADEMY OF PATHOLOGY), SAN FRANCISCO, CALIFORNIA, USA, MARCH 5-10, 1989. LAB INVEST. (1989) 60 (1), 15A.
CODEN: LAINAW. ISSN: 0023-6837.
DT Conference
FS BR; OLD
LA English
CC General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520
Microscopy Techniques - Histology and Histochemistry 01056
Comparative Biochemistry, General *10010
Biochemical Studies - Proteins, Peptides and Amino Acids 10064
Biochemical Studies - Lipids 10066
Biophysics - Molecular Properties and Macromolecules 10506
Anatomy and Histology, General and Comparative - Microscopic and Ultramicroscopic Anatomy *11108
Pathology, General and Miscellaneous - Comparative *12503
Pathology, General and Miscellaneous - Diagnostic 12504
Metabolism - Lipids *13006
Digestive System - Pathology *14006
Urinary System and External Secretions - Pathology *15506
Reproductive System - Pathology *16506
Neoplasms and Neoplastic Agents - Diagnostic Methods *24001
Neoplasms and Neoplastic Agents - Immunology *24003
Neoplasms and Neoplastic Agents - Neoplastic Cell Lines *24005
Neoplasms and Neoplastic Agents - Biochemistry *24006
Developmental Biology - Embryology - Morphogenesis, General 25508
Laboratory Animals - General 28002
Immunology and Immunochemistry - General; Methods *34502
BC Muridae 86375
IT Miscellaneous Descriptors
ABSTRACT MOUSE CELLULAR DIFFERENTIATION STOMACH BREAST **KIDNEY** ENDOMETRIUM IMMUNOSTAINING CANCER MARKER

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AN 1989:216021 BIOSIS
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Neoplasms and Neoplastic Agents - Biochemistry *24006
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Laboratory Animals - General 28002
Immunology and Immunochemistry - General; Methods *34502
BC Muridae 86375
IT Miscellaneous Descriptors
ABSTRACT MOUSE CELLULAR DIFFERENTIATION STOMACH BREAST **KIDNEY** ENDOMETRIUM IMMUNOSTAINING CANCER MARKER

L5 ANSWER 19 OF 23 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 6
AN 1989:380867 BIOSIS
DN BA88:61457
TI DEVELOPMENTAL CHANGES IN THE EXPRESSION OF GENES INVOLVED IN CHOLESTEROL BIOSYNTHESIS AND LIPID TRANSPORT IN HUMAN AND RAT FETAL AND NEONATAL LIVERS.
AU LEVIN M S; PITT A J A; SCHWARTZ A L; EDWARDS P A; GORDON J I
CS DEP. MED., WASHINGTON UNIV. SCH. MED., 660 S. EUCLID AVE., BOX 8124, ST. LOUIS, MO 63110, USA.
SO BIOCHIM BIOPHYS ACTA, (1989) 1003 (3), 293-300.
CODEN: BBACAQ. ISSN: 0006-3002.
FS BA; OLD
LA English
AB Cloned cDNAs encoding a number of enzymes involved in cholesterol biosynthesis as well as extracellular and intracellular lipid transport were used to compare the developmental maturation of these biologic functions in the fetal and neonatal rat and human liver. The results of RNA blot hybridization analyses indicate that steady-state levels of rat HMG-CoA synthase, HMG-CoA reductase and prenyl transferase mRNAs are highest in late fetal life and undergo preciptious (up to 80-fold) co-ordinate reductions immeidately after parturition. These changes reflect the ability of the fetal rat liver to produce large quantities of cholesterol as well as the repression of this function during the suckling period in response to exogenous dietary cholesterol. Striking co-ordinate patterns of HMG-CoA synthase, reductase and prenyl-transferase mRNA accumulation were also observed in four extrahepatic rat tissues (brain, lung, intestine and **kidney**) during the perinatal period. The concentrations of the three mRNs in the 8-week-old human fetal liver are similar to those observed throughout subsequent intrauterine development with less than 2-fold changes noted between the 8th through 25th weeks of gestation. Analysis of the levels of human apo AI, apo AII, apo B and **liver fatty acid binding protein** mRNAs during this period and in newborn liver specimens also indicated less than 2-3-fold changes. These observations suggest that the 8-week human liver has achieved a high degree of biochemical differentiation with respect to functions involved in lipid metabolism/transport which may be comparable to that present in 19-21 day fetal rat liver. Further analysis of human and rat fetal liver RNAs using cloned cDNAs should permit construction of a development time scale correlating hepatic biochemical differentiation to be constructed between these two mammalian species.
CC Genetics and Cytogenetics - Animal *03506
Genetics and Cytogenetics - Human *03508
Comparative Biochemistry, General *10010
Biochemical Methods - Lipids 10056
Biochemical Methods - Sterols and Steroids 10057
Biochemical Studies - Lipids *10066
Biochemical Studies - Sterols and Steroids *10067
Movement 12100
Metabolism - Lipids *13006
Metabolism - Sterols and Steroids *13008
Developmental Biology - Embryology - Morphogenesis, General *25508
BC Mammalia - Unspecified 85700
Hominidae 86215
Muridae 86375
IT Miscellaneous Descriptors
MAMMAL RNA COMPLEMENTARY DNA
RN 57-88-5 (CHOLESTEROL)

L5 ANSWER 19 OF 23 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 6
AN 1989:380867 BIOSIS
DN BA88:61457
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BC Mammalia - Unspecified 85700
Hominidae 86215
Muridae 86375
IT Miscellaneous Descriptors
MAMMAL RNA COMPLEMENTARY DNA
RN 57-88-5 (CHOLESTEROL)

L5 ANSWER 17 OF 23 CAPLUS COPYRIGHT 2003 ACS
AN 1992:647417 CAPLUS
DN 117:247417
TI Molecular identification of the liver- and the heart-type fatty acid-binding proteins in human and rat **kidney**. Use of the reverse transcriptase polymerase chain reaction
AU Maatman, Ronald G. H. J.; Van de Westerlo, Els M. A.; Van Kuppevelt, Toin H. M. S. M.; Veerkamp, Jacques H.
CS Dep. Biochem., Univ. Nijmegen, Nijmegen, 6500 HB, Neth.
SO Biochemical Journal (1992), 288(1), 285-90
CODEN: BIJOAK; ISSN: 0306-3275
DT Journal
LA English
CC 6-3 (General Biochemistry)
Section cross-reference(s): 13
AB The cDNAs of 2 types of fatty acid-binding protein (FABP) present in human **kidney**, previously described as types A and B, were isolated using reverse transcriptase-PCR (RT-PCR) with human **kidney** mRNA and various sets of primers. The cDNA fragments were cloned and sequenced. Renal FABP type A and B cDNAs appeared to be completely identical to human liver- and heart-type FABP cDNAs, resp. The presence of liver-type FABP in rat **kidney** was demonstrated by chromatog., ELISA, and immunocytochem. The ratio and cellular distribution of the 2 FABP types varies markedly in human and rat **kidney**. RT-PCR permitted prepn. and identification of liver- and heart-type FABP cDNAs with mRNA from both male and female rat **kidney**.
ST fatty acid binding protein type **kidney**; liver type FABP protein **kidney**; heart type FABP protein **kidney**
IT **Kidney**, composition
(fatty acid-binding proteins of, of human and other mammal, liver and heart types of)
IT Proteins, specific or class
RL: BIOL (Biological study)
(L-FABP (**liver fatty acid-binding protein**), of **kidney**, of human and other mammal)
IT Phosphoproteins
RL: BIOL (Biological study)
(h-FABP (heart fatty acid-binding protein), of **kidney**, of human and other mammal)

L5 ANSWER 17 OF 23 CAPLUS COPYRIGHT 2003 ACS
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ST fatty acid binding protein type **kidney**; liver type FABP protein **kidney**; heart type FABP protein **kidney**
IT **Kidney**, composition
(fatty acid-binding proteins of, of human and other mammal, liver and heart types of)
IT Proteins, specific or class
RL: BIOL (Biological study)
(L-FABP (**liver fatty acid-binding protein**), of **kidney**, of human and other mammal)
IT Phosphoproteins
RL: BIOL (Biological study)
(h-FABP (heart fatty acid-binding protein), of **kidney**, of human and other mammal)

L5 ANSWER 15 OF 23 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 4
AN 1994:494184 BIOSIS
DN PREV199497507184
TI Studies on the efflux of heme from biological membranes.
AU Liem, Heng H.; Noy, Noa; Muller-Eberhard, Ursula (1)
CS (1) Dep. Pediatr./Hematol.-Oncol., Cornell Univ. Med. Coll., 525 E. 68th St. N-804, New York, NY 10021 USA
SO Biochimica et Biophysica Acta, (1994) Vol. 1194, No. 2, pp. 264-270. ISSN: 0006-3002.
DT Article
LA English
AB It is unknown how heme is distributed intracellularly from its site of synthesis in the mitochondria to other organelles. In previous work (Biochemistry 23, 3715, 1984) the transfer of heme from lipid bilayers to soluble proteins had been found to be independent of the recipient proteins' affinity for heme. Here, we investigated whether proteins are involved in the transfer of heme from biological membranes into aqueous media. We followed the release of 14C-labeled heme, from mitochondria preloaded with the heme, to BSA and found that only about 28% of the heme was extracted on the first wash. After the third wash 35-50% of the heme that had been partitioned into the membranes was extracted. Fourth and fifth washes with BSA or a cytosolic heme-binding protein (HBP, also known as **liver fatty acid binding protein**) removed only insignificant amounts of 14C-labeled heme. Similarly, a large portion of the preloaded 14C-labeled heme could not be extracted from a variety of isolated membranes (inner and outer mitochondrial membranes, plasma membranes of liver cells, **kidney** cortex cells and erythrocyte membranes). By contrast, essentially all (14 C)palmitate preloaded in biological membranes and all 14C-labeled heme preloaded in synthetic membranes was released to albumin (Biochemistry 23, 3715, 1984). These observations suggest that, in general, heme associates with membrane components which can be distinguished into two compartments. One compartment releases its heme spontaneously, while another compartment binds heme so tightly that a specific process has to be evoked for its release.
CC Cytology and Cytochemistry - Animal *02506
Biochemical Studies - Proteins, Peptides and Amino Acids *10064
Biochemical Studies - Porphyrins and Bile Pigments *10065
Biophysics - Membrane Phenomena *10508
Metabolism - Porphyrins and Bile Pigments *13013
BC Muridae *86375
IT Major Concepts
Biochemistry and Molecular Biophysics; Cell Biology; Membranes (Cell Biology); Metabolism
IT Chemicals & Biochemicals
HEME
IT Miscellaneous Descriptors
BOVINE SERUM ALBUMIN; HEME TRANSFER; HEME-BINDING PROTEIN; MITOCHONDRIA
ORGN Super Taxa
Muridae: Rodentia, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
rat (Muridae)
ORGN Organism Superterms
animals; chordates; mammals; nonhuman mammals; nonhuman vertebrates; rodents; vertebrates
RN 14875-96-8 (HEME)

L5 ANSWER 15 OF 23 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 4
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DN PREV199497507184
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BC Muridae *86375
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IT Chemicals & Biochemicals
HEME
IT Miscellaneous Descriptors
BOVINE SERUM ALBUMIN; HEME TRANSFER; HEME-BINDING PROTEIN; MITOCHONDRIA
ORGN Super Taxa
Muridae: Rodentia, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
rat (Muridae)
ORGN Organism Superterms
animals; chordates; mammals; nonhuman mammals; nonhuman vertebrates; rodents; vertebrates
RN 14875-96-8 (HEME)

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Biochemical Studies - Porphyrins and Bile Pigments *10065
Biophysics - Membrane Phenomena *10508
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BC Muridae *86375
IT Major Concepts
Biochemistry and Molecular Biophysics; Cell Biology; Membranes (Cell Biology); Metabolism
IT Chemicals & Biochemicals
HEME
IT Miscellaneous Descriptors
BOVINE SERUM ALBUMIN; HEME TRANSFER; HEME-BINDING PROTEIN; MITOCHONDRIA
ORGN Super Taxa
Muridae: Rodentia, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
rat (Muridae)
ORGN Organism Superterms
animals; chordates; mammals; nonhuman mammals; nonhuman vertebrates; rodents; vertebrates
RN 14875-96-8 (HEME)

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DT Article
LA English
AB It is unknown how heme is distributed intracellularly from its site of synthesis in the mitochondria to other organelles. In previous work (Biochemistry 23, 3715, 1984) the transfer of heme from lipid bilayers to soluble proteins had been found to be independent of the recipient proteins' affinity for heme. Here, we investigated whether proteins are involved in the transfer of heme from biological membranes into aqueous media. We followed the release of 14C-labeled heme, from mitochondria preloaded with the heme, to BSA and found that only about 28% of the heme was extracted on the first wash. After the third wash 35-50% of the heme that had been partitioned into the membranes was extracted. Fourth and fifth washes with BSA or a cytosolic heme-binding protein (HBP, also known as **liver fatty acid binding protein**) removed only insignificant amounts of 14C-labeled heme. Similarly, a large portion of the preloaded 14C-labeled heme could not be extracted from a variety of isolated membranes (inner and outer mitochondrial membranes, plasma membranes of liver cells, **kidney** cortex cells and erythrocyte membranes). By contrast, essentially all (14 C)palmitate preloaded in biological membranes and all 14C-labeled heme preloaded in synthetic membranes was released to albumin (Biochemistry 23, 3715, 1984). These observations suggest that, in general, heme associates with membrane components which can be distinguished into two compartments. One compartment releases its heme spontaneously, while another compartment binds heme so tightly that a specific process has to be evoked for its release.
CC Cytology and Cytochemistry - Animal *02506
Biochemical Studies - Proteins, Peptides and Amino Acids *10064
Biochemical Studies - Porphyrins and Bile Pigments *10065
Biophysics - Membrane Phenomena *10508
Metabolism - Porphyrins and Bile Pigments *13013
BC Muridae *86375
IT Major Concepts
Biochemistry and Molecular Biophysics; Cell Biology; Membranes (Cell Biology); Metabolism
IT Chemicals & Biochemicals
HEME
IT Miscellaneous Descriptors
BOVINE SERUM ALBUMIN; HEME TRANSFER; HEME-BINDING PROTEIN; MITOCHONDRIA
ORGN Super Taxa
Muridae: Rodentia, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
rat (Muridae)
ORGN Organism Superterms
animals; chordates; mammals; nonhuman mammals; nonhuman vertebrates; rodents; vertebrates
RN 14875-96-8 (HEME)

L5 ANSWER 13 OF 23 CAPLUS COPYRIGHT 2003 ACS
AN 1997:325630 CAPLUS
DN 127:3209
TI Interaction of fatty acid-binding proteins with the peroxisome proliferator-activated receptor alpha. Evidence for FABP modulation of the gene response to fatty acid overload
AU Bass, Nathan M.
CS Department of Medicine, University of California, San Francisco, San Francisco, CA, 94143, USA
SO Frontiers in Bioactive Lipids, [Proceedings of the Washington International Spring Symposium], 16th, Washington, D. C., May 6-9, 1996 (1996), 67-72. Editor(s): Vanderhoek, Jack Y. Publisher: Plenum, New York, N. Y.
CODEN: 64JQAR
DT Conference; General Review
LA English
CC 13-0 (Mammalian Biochemistry)
Section cross-reference(s): 6
AB A review, with 38 refs., on the interaction between fatty acid-binding protein (FABP), most notably the liver form, and the activation of peroxisome proliferator-activated receptor alpha (PPAR.alpha.), the isotype of this family of nuclear receptors which is predominantly expressed in liver, **kidney** and heart muscle tissue.
ST review fatty acid binding protein PPARalpha; peroxisome proliferator activated receptor FABP review
IT Proteins, specific or class
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(FABP (fatty acid-binding protein); interaction of fatty acid-binding proteins with the peroxisome proliferator-activated receptor alpha)
IT Proteins, specific or class
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(L-FABP (**liver fatty acid-binding protein**); interaction of fatty acid-binding proteins with the peroxisome proliferator-activated receptor alpha)
IT Gene
(expression; interaction of fatty acid-binding proteins with the peroxisome proliferator-activated receptor alpha)
IT Gene, animal
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(for peroxisome proliferator-activated receptor .alpha.; interaction of fatty acid-binding proteins with the peroxisome proliferator-activated receptor alpha)
IT Liver
(interaction of fatty acid-binding proteins with the peroxisome proliferator-activated receptor alpha)
IT Albumins, biological studies
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(interaction of fatty acid-binding proteins with the peroxisome proliferator-activated receptor alpha)
IT Fatty acids, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(interaction of fatty acid-binding proteins with the peroxisome proliferator-activated receptor alpha)
IT Peroxisome proliferator-activated receptors
RL: BAC (Biological activity or effector, except adverse); BPR (Biological

L5 ANSWER 13 OF 23 CAPLUS COPYRIGHT 2003 ACS
AN 1997:325630 CAPLUS
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RL: BAC (Biological activity or effector, except adverse); BPR (Biological

process); BSU (Biological study, unclassified); BIOL (Biological study);
PROC (Process)
(.alpha.; interaction of fatty acid-binding proteins with the
peroxisome proliferator-activated receptor alpha)

process); BSU (Biological study, unclassified); BIOL (Biological study);
PROC (Process)
(.alpha.; interaction of fatty acid-binding proteins with the
peroxisome proliferator-activated receptor alpha)

L19 ANSWER 8 OF 9 MEDLINE
AN 87079676 MEDLINE
DN 87079676 PubMed ID: 3539534
TI Control of 5-aminolevulinate synthase in animals.
AU May B K; Borthwick I A; Srivastava G; Pirola B A; Elliott W H
SO CURRENT TOPICS IN CELLULAR REGULATION, (1986) 28 233-62. Ref: 115
Journal code: 2984740R. ISSN: 0070-2137.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LA English
FS Priority Journals
EM 198702
ED Entered STN: 19900302
Last Updated on STN: 19980206
Entered Medline: 19870219
AB The proposed mechanism by which hepatic ALV-synthase mitochondrial levels are regulated is outlined in Fig. 2. ALV-synthase catalyzes the first and rate-limiting step in the heme pathway and is normally present in low amounts. A cytosolic, regulatory free heme pool tightly controls the amount of ALV-synthase in two ways. In the primary mechanism of regulation, heme is proposed to inhibit the synthesis of ALV-synthase mRNA. Most likely this would be mediated through the action of specific **heme-binding protein**(s) which recognize regulatory control regions of the ALV-synthase gene. Gene activity therefore is significantly repressed most of the time. When there is an increased demand for heme by newly synthesized cellular hemoproteins, the free heme pool is reduced, leading to a derepression of ALV-synthase mRNA synthesis. Once the need for increased heme synthesis is satisfied, inhibitory heme levels build up again. When drugs such as phenobarbital are administered to animals, there is a rapid induction in the liver of both cytochrome P-450 and ALV-synthase. It is proposed that the heme pool governing ALV-synthase levels is lowered by the increased heme demand due to cytochrome P-450 apoprotein formation. The primary event in the drug induction of ALV-synthase is therefore the increased synthesis of cytochrome P-450 apoprotein. However, the mechanism by which this occurs is unknown, although drugs do increase the synthesis of mRNA for cytochrome P-450 (Fig. 2). (There is evidence that for the aromatic hydrocarbons a specific cytosolic receptor exists.) In the acute hepatic porphyria **diseases**, uncontrolled synthesis of hepatic ALV-synthase occurs. The various forms are characterized by reduced levels of one of the heme pathway enzymes other than ALV-synthase. Attacks of the **disease** are commonly precipitated by drugs which induce cytochrome P-450, and the uncontrolled accumulation of ALV-synthase which accompanies these attacks results from the combined action of the block in the heme pathway and the increased cytochrome P-450 levels. A major challenge which now exists is to understand at the molecular level how the genes for ALV-synthase and cytochrome P-450 are regulated in the liver and other tissues.(ABSTRACT TRUNCATED AT 400 WORDS)
CT Check Tags: Animal; **Human**
*5-Aminolevulinate Synthetase: ME, metabolism
Cytosol: EN, enzymology
Heme: ME, metabolism
Liver: EN, enzymology
Mitochondria: EN, enzymology
Mitochondria, Liver: EN, enzymology
Porphyria: EN, enzymology
Reticulocytes: EN, enzymology
RN 14875-96-8 (Heme)
CN EC 2.3.1.37 (5-Aminolevulinate Synthetase)

L19 ANSWER 8 OF 9 MEDLINE
AN 87079676 MEDLINE
DN 87079676 PubMed ID: 3539534
TI Control of 5-aminolevulinate synthase in animals.
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CY United States
DT Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
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CT Check Tags: Animal; **Human**
*5-Aminolevulinate Synthetase: ME, metabolism
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Mitochondria: EN, enzymology
Mitochondria, Liver: EN, enzymology
Porphyria: EN, enzymology
Reticulocytes: EN, enzymology
RN 14875-96-8 (Heme)
CN EC 2.3.1.37 (5-Aminolevulinate Synthetase)

L19 ANSWER 9 OF 9 CAPLUS COPYRIGHT 2003 ACS
AN 1966:61948 CAPLUS
DN 64:61948
OREF 64:11636g-h
TI Plasma hematin binding and clearance in the rhesus monkey
AU Sears, David A.; Huser, Hans Juerg
CS Walter Reed Army Inst. of Res., Washington, DC
SO Proc. Soc. Exptl. Biol. Med. (1966), 121(1), 111-16
DT Journal
LA English
CC 65 (Mammalian Biochemistry)
AB In vitro and in vivo expts. demonstrated that protein binding of hematin (prepd. from **human** erythrocytes) in rhesus monkey plasma was similar to that in **human** plasma. After intravenous injection, the pigment was bound primarily by albumin and .beta.-globulin, and possibly to some extent also by .alpha.-globulin. The disappearance of the complexes from the plasma was traced, and studies with hematin-59Fe implicated the liver as the primary site of removal of injected hematin. Depletion of the **heme-binding protein** was observed after hematin injection. The value of the monkey as an exptl. model for studies of hematin binding and the possible implications for **human** hemolytic **disease** are discussed. 29 references.
IT Proteins
(blood-plasma, hematin complex, liver clearance and)
IT Liver
(hematin removal from blood plasma by)
IT Hematins
(protein complex, in blood plasma, liver clearance of)

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IT Proteins
(blood-plasma, hematin complex, liver clearance and)
IT Liver
(hematin removal from blood plasma by)
IT Hematins
(protein complex, in blood plasma, liver clearance of)

L31 ANSWER 25 OF 45 MEDLINE
AN 92399400 MEDLINE
DN 92399400 PubMed ID: 1525132
TI [Genetic diseases of **lipid storage** and related disorders].
Genetisch bedingte Lipidstoffwechselstorungen und Grenzgebiete.
AU Kunnert B
CS Institut fur Pathologische Anatomie, Universitat Leipzig, Deutschland.
SO ZENTRALBLATT FUR PATHOLOGIE, (1992 Jun) 138 (3) 168-208. Ref: 359
Journal code: 9105594. ISSN: 0863-4106.
CY GERMANY: Germany, Federal Republic of
DT Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, ACADEMIC)
LA German
FS Priority Journals
EM 199210
ED Entered STN: 19921106
Last Updated on STN: 19921106
Entered Medline: 19921022
AB A general account is given in this paper of genetic disorders of lipid metabolism so far known together with marginally related lesions with particular reference being made to amino acid metabolism. Somewhat closer attention is given, in this context, to pathologico-anatomic findings.
CT Check Tags: Animal; **Human**
Biopsy
Cholesterol Esters: ME, metabolism
Chromatography: MT, methods
English Abstract
Kidney: ME, metabolism
Kidney: PA, pathology
*Lipid Metabolism, Inborn Errors: DI, diagnosis
Lipid Metabolism, Inborn Errors: PA, pathology
Lipids: AN, analysis
Liver: ME, metabolism
Lysosomes: ME, metabolism
Mitochondria: ME, metabolism
Myocardium: ME, metabolism
Myocardium: PA, pathology
Rats
Sterols: ME, metabolism
Triglycerides: ME, metabolism
CN 0 (Cholesterol Esters); 0 (Lipids); 0 (Sterols); 0 (Triglycerides)

L31 ANSWER 25 OF 45 MEDLINE
AN 92399400 MEDLINE
DN 92399400 PubMed ID: 1525132
TI [Genetic diseases of **lipid storage** and related disorders].
Genetisch bedingte Lipidstoffwechselstorungen und Grenzgebiete.
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General Review; (REVIEW)
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CT Check Tags: Animal; **Human**
Biopsy
Cholesterol Esters: ME, metabolism
Chromatography: MT, methods
English Abstract
Kidney: ME, metabolism
Kidney: PA, pathology
*Lipid Metabolism, Inborn Errors: DI, diagnosis
Lipid Metabolism, Inborn Errors: PA, pathology
Lipids: AN, analysis
Liver: ME, metabolism
Lysosomes: ME, metabolism
Mitochondria: ME, metabolism
Myocardium: ME, metabolism
Myocardium: PA, pathology
Rats
Sterols: ME, metabolism
Triglycerides: ME, metabolism
CN 0 (Cholesterol Esters); 0 (Lipids); 0 (Sterols); 0 (Triglycerides)

(FILE 'HOME' ENTERED AT 11:40:58 ON 23 DEC 2002)

FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, CANCERLIT' ENTERED AT 11:41:29 ON 23 DEC 2002

L1 1126 S (LIVER FATTY ACID BINDING PROTEIN)
L2 2 S L1 AND (KIDNEY DISEASE)
L3 1 S L1 AND NEPHRITIS
L4 749 S (L-FABP)
L5 0 S LIDNEY DISEASE
L6 131547 S KIDNEY DISEASE
L7 4 S L4 AND L6
L8 50 S L1 AND ANTIBOD?
L9 299 S L1 AND HUMAN?
L10 23 S L9 AND KIDNEY?
L11 4 S L8 AND L10
L12 4 DUPLICATE REMOVE L11 (0 DUPLICATES REMOVED)
L13 55 S L1 AND DISEASE
L14 3 S L13 AND ANTIBOD?

FILE 'STNGUIDE' ENTERED AT 12:25:27 ON 23 DEC 2002
L15 0 S L1 AND KIDNEY?

FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, CANCERLIT' ENTERED AT 12:29:02 ON 23 DEC 2002
L16 120 S 1L AND KIDNEY?
L17 25 S L16 AND DISEASE?
L18 21 DUPLICATE REMOVE L17 (4 DUPLICATES REMOVED)
L19 3 S L18 AND ANTIBOD?
L20 1126 S 'LIVER FATTY ACID BINDING PROTEIN'
L21 40 S L20 AND KIDNEY?
L22 4 S L21 AND ANTIBOD?
L23 2 S L21 AND DISEASE
L24 4 DUPLICATE REMOVE L22 (0 DUPLICATES REMOVED)
L25 3 S L24 NOT L23
L26 252 S 'LIPID STORAGE' AND KIDNEY?
L27 137 S L26 AND HUMAN?
L28 1 S L27 AND FABP?
L29 62 S L27 AND LIVER
L30 0 S L29 AND ANTIBOD?
L31 45 DUPLICATE REMOVE L29 (17 DUPLICATES REMOVED)
L32 13 S (KIDNEY DISEASE) AND FABP
L33 3 S L32 AND LIPID?

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   (FILE 'HOME' ENTERED AT 11:40:58 ON 23 DEC 2002)

     FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, CANCERLIT' ENTERED AT 11:41:29 ON
     23 DEC 2002
L1          1126 S (LIVER FATTY ACID BINDING PROTEIN)
L2             2 S L1 AND (KIDNEY DISEASE)
L3             1 S L1 AND NEPHRITIS
L4           749 S (L-FABP)
L5             0 S LIDNEY DISEASE
L6        131547 S KIDNEY DISEASE
L7             4 S L4 AND L6
L8            50 S L1 AND ANTIBOD?
L9           299 S L1 AND HUMAN?
L10           23 S L9 AND KIDNEY?
L11            4 S L8 AND L10
L12            4 DUPLICATE REMOVE L11 (0 DUPLICATES REMOVED)
L13           55 S L1 AND DISEASE
L14            3 S L13 AND ANTIBOD?

     FILE 'STNGUIDE' ENTERED AT 12:25:27 ON 23 DEC 2002
L15            0 S L1 AND KIDNEY?

     FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, CANCERLIT' ENTERED AT 12:29:02 ON
     23 DEC 2002
L16          120 S 1L AND KIDNEY?
L17           25 S L16 AND DISEASE?
L18           21 DUPLICATE REMOVE L17 (4 DUPLICATES REMOVED)
L19            3 S L18 AND ANTIBOD?
L20         1126 S 'LIVER FATTY ACID BINDING PROTEIN'
L21           40 S L20 AND KIDNEY?
L22            4 S L21 AND ANTIBOD?
L23            2 S L21 AND DISEASE
L24            4 DUPLICATE REMOVE L22 (0 DUPLICATES REMOVED)
L25            3 S L24 NOT L23
L26          252 S 'LIPID STORAGE' AND KIDNEY?
L27          137 S L26 AND HUMAN?
L28            1 S L27 AND FABP?
L29           62 S L27 AND LIVER
L30            0 S L29 AND ANTIBOD?
L31           45 DUPLICATE REMOVE L29 (17 DUPLICATES REMOVED)
L32           13 S (KIDNEY DISEASE) AND FABP
L33            3 S L32 AND LIPID?

=>
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L14 ANSWER 3 OF 3 MEDLINE
AN 91094806 MEDLINE
DN 91094806 PubMed ID: 2266963
TI **Liver fatty acid-binding protein** in two cases of human lipid storage.
AU Vergani L; Fanin M; Martinuzzi A; Galassi A; Appi A; Carrozzo R; Rosa M; Angelini C
CS Department of Neurology, University of Padova, Italy.
SO MOLECULAR AND CELLULAR BIOCHEMISTRY, (1990 Oct 15-Nov 8) 98 (1-2) 225-30. Journal code: 0364456. ISSN: 0300-8177.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199102
ED Entered STN: 19910322
Last Updated on STN: 19980206
Entered Medline: 19910211
AB FABPs in the various tissues play an important role in the intracellular fatty acid transport and metabolism. Reye's syndrome (RS) and multisystemic lipid storage (MLS) are human disorders characterized by a disturbance of lipid metabolism of unknown etiology. We investigated for the first time L-FABP in these two conditions. Affinity purified **antibodies** against chicken L-FABP were raised in rabbits, and found to cross-react specifically with partially purified human L-FABP. L-FABP content in liver samples of two patients with RS and MLS was investigated by immuno-histochemistry, SDS-PAGE and ELISA. L-FABP immuno-histochemistry showed increased reactivity in the liver of RS patient and normal reactivity in MLS liver. L-FABP increase in RS liver was confirmed by densitometry of SDS-PAGE and ELISA method. By these two methods the increase amounted to 180% and 199% (p less than 0.02), respectively, as compared to controls. A possible role of L-FABP in the pathogenesis of RS is discussed.
CT Check Tags: Animal; Case Report; Female; Human; Male
Adolescence
Antibodies: IM, immunology
Carrier Proteins: IM, immunology
*Carrier Proteins: ME, metabolism
Chickens
Enzyme-Linked Immunosorbent Assay
*Lipid Metabolism, Inborn Errors: ME, metabolism
Lipid Metabolism, Inborn Errors: PA, pathology
Liver: UL, ultrastructure
Liver Diseases: CO, complications
***Liver Diseases: ME, metabolism**
Liver Diseases: PA, pathology
Middle Age
Reye Syndrome: ET, etiology
*Reye Syndrome: ME, metabolism
Reye Syndrome: PA, pathology
CN 0 (**Antibodies**); 0 (Carrier Proteins); 0 (fatty acid-binding proteins)

=> FIL STNGUIDE

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	109.52	109.73

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-7.43	-7.43

FILE 'STNGUIDE' ENTERED AT 12:25:27 ON 23 DEC 2002

FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Dec 20, 2002 (20021220/UP).

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FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Dec 20, 2002 (20021220/UP).

=>

L8 ANSWER 12 OF 19 CAPLUS COPYRIGHT 2002 ACS
AN 1997:325630 CAPLUS
DN 127:3209
TI Interaction of fatty acid-binding proteins with the peroxisome proliferator-activated receptor alpha. Evidence for FABP modulation of the gene response to fatty acid overload
AU Bass, Nathan M.
CS Department of Medicine, University of California, San Francisco, San Francisco, CA, 94143, USA
SO Frontiers in Bioactive Lipids, [Proceedings of the Washington International Spring Symposium], 16th, Washington, D. C., May 6-9, 1996 (1996), 67-72. Editor(s): Vanderhoek, Jack Y. Publisher: Plenum, New York, N. Y.
CODEN: 64JQAR
DT Conference; General Review
LA English
CC 13-0 (Mammalian Biochemistry)
Section cross-reference(s): 6
AB A review, with 38 refs., on the interaction between fatty acid-binding protein (FABP), most notably the liver form, and the activation of peroxisome proliferator-activated receptor alpha (PPAR.alpha.), the isotype of this family of nuclear receptors which is predominantly expressed in liver, **kidney** and heart muscle tissue.
ST review fatty acid binding protein PPARalpha; peroxisome proliferator activated receptor FABP review
IT Proteins, specific or class
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(FABP (fatty acid-binding protein); interaction of fatty acid-binding proteins with the peroxisome proliferator-activated receptor alpha)
IT Proteins, specific or class
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(**L-FABP** (liver fatty acid-binding protein); interaction of fatty acid-binding proteins with the peroxisome proliferator-activated receptor alpha)
IT Gene
(expression; interaction of fatty acid-binding proteins with the peroxisome proliferator-activated receptor alpha)
IT Gene, animal
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(for peroxisome proliferator-activated receptor .alpha.; interaction of fatty acid-binding proteins with the peroxisome proliferator-activated receptor alpha)
IT Liver
(interaction of fatty acid-binding proteins with the peroxisome proliferator-activated receptor alpha)
IT Albumins, biological studies
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(interaction of fatty acid-binding proteins with the peroxisome proliferator-activated receptor alpha)
IT Fatty acids, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(interaction of fatty acid-binding proteins with the peroxisome proliferator-activated receptor alpha)
IT Peroxisome proliferator-activated receptors
RL: BAC (Biological activity or effector, except adverse); BPR (Biological

L8 ANSWER 12 OF 19 CAPLUS COPYRIGHT 2002 ACS
AN 1997:325630 CAPLUS
DN 127:3209
TI Interaction of fatty acid-binding proteins with the peroxisome proliferator-activated receptor alpha. Evidence for FABP modulation of the gene response to fatty acid overload
AU Bass, Nathan M.
CS Department of Medicine, University of California, San Francisco, San Francisco, CA, 94143, USA
SO Frontiers in Bioactive Lipids, [Proceedings of the Washington International Spring Symposium], 16th, Washington, D. C., May 6-9, 1996 (1996), 67-72. Editor(s): Vanderhoek, Jack Y. Publisher: Plenum, New York, N. Y.
CODEN: 64JQAR
DT Conference; General Review
LA English
CC 13-0 (Mammalian Biochemistry)
Section cross-reference(s): 6
AB A review, with 38 refs., on the interaction between fatty acid-binding protein (FABP), most notably the liver form, and the activation of peroxisome proliferator-activated receptor alpha (PPAR.alpha.), the isotype of this family of nuclear receptors which is predominantly expressed in liver, **kidney** and heart muscle tissue.
ST review fatty acid binding protein PPARalpha; peroxisome proliferator activated receptor FABP review
IT Proteins, specific or class
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(FABP (fatty acid-binding protein); interaction of fatty acid-binding proteins with the peroxisome proliferator-activated receptor alpha)
IT Proteins, specific or class
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(**L-FABP** (liver fatty acid-binding protein); interaction of fatty acid-binding proteins with the peroxisome proliferator-activated receptor alpha)
IT Gene
(expression; interaction of fatty acid-binding proteins with the peroxisome proliferator-activated receptor alpha)
IT Gene, animal
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(for peroxisome proliferator-activated receptor .alpha.; interaction of fatty acid-binding proteins with the peroxisome proliferator-activated receptor alpha)
IT Liver
(interaction of fatty acid-binding proteins with the peroxisome proliferator-activated receptor alpha)
IT Albumins, biological studies
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(interaction of fatty acid-binding proteins with the peroxisome proliferator-activated receptor alpha)
IT Fatty acids, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(interaction of fatty acid-binding proteins with the peroxisome proliferator-activated receptor alpha)
IT Peroxisome proliferator-activated receptors
RL: BAC (Biological activity or effector, except adverse); BPR (Biological

process); BSU (Biological study, unclassified); BIOL (Biological study);
PROC (Process)
(.alpha.; interaction of fatty acid-binding proteins with the
peroxisome proliferator-activated receptor alpha)

process); BSU (Biological study, unclassified); BIOL (Biological study);
PROC (Process)
(.alpha.; interaction of fatty acid-binding proteins with the
peroxisome proliferator-activated receptor alpha)

updated search LVCook 10/14/03

L2 ANSWER 4 OF 6 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 1
AN 1997:226296 BIOSIS
DN PREV199799518012
TI Suppressor and activator functions mediated by a repeated heptad sequence in the **liver fatty acid-binding protein** gene (Fabpl.
AU Simon, Theodore C.; Cho, Alex; Tso, Patrick; Gordon, Jeffrey I. (1)
CS (1) Dep. Molecular Biol. Pharmacol., Box 8103, Washington Univ. Sch. Med., 660 South Euclid Ave., St. Louis, MO 63110 USA
SO Journal of Biological Chemistry, (1997) Vol. 272, No. 16, pp. 10652-10663. ISSN: 0021-9258. April 1997
DT Article
LA English
AB A 35-nucleotide sequence in the **liver fatty acid-binding protein** gene (Fabpl) has been identified that interacts with nuclear proteins present in adult mouse liver, kidney, stomach, small intestine, and colon. The binding site consists of a direct heptad repeat (TTCTGNNTT) separated by five nucleotides. Both heptads are required for formation of stable complexes with nuclear proteins in gel mobility shift assays. The in vivo functions mediated by the repeats were determined by comparing the expression of four Fabpl/human growth hormone fusion genes in multiple pedigrees of adult transgenic mice. The transgenes contained (i) nucleotides -596 to +21 of Fabpl linked to the human growth hormone reporter, (ii) 4 additional copies of the 35-base pair element placed at nucleotide -596 of Fabpl, (iii) 4 additional copies of the sequence placed just upstream of its endogenous site at nucleotide -132, and (iv) a sequence identical to (iii) but with all heptad repeats mutated within each of the 4 additional copies of the 35-base pair element. Transgene expression was defined by RNA blot hybridizations and by light and electron microscopic immunohistochemistry. The heptad repeat functions to suppress expression in tubular epithelial cells of the proximal nephron, in hepatocytes, in the mucus-producing pit cells of the gastric epithelium, and in absorptive enterocytes located in the proximal small intestine. There is a gradient of escape from enterocytic suppression as one moves from the proximal to distal small intestine. This escape progresses to involve successively less differentiated cells located closer and closer to the stem cell zone in crypts of Lieberkuhn. The heptad repeat activates gene expression in the colonic epithelium so that all proliferating and nonproliferating cells in colonic crypts distributed from the cecum to the rectum support transgene expression. The heptad has no obvious sequence similarities to known transcription factor binding sites, suggesting that mediators of its in vivo activities are likely to be novel. One candidate factor is a 90-kDa protein identified in Southwestern blots. The 90-kDa protein also binds to an element in the matrix metalloproteinase-2 gene that functions as an enhancer in **renal** cells, shares sequence homology with the heptad, and generates similar-sized complexes in gel mobility shift assays as the Fabpl repeat. The heptad repeat represents a target for identifying transcription factors that regulate gene expression between gut and **renal** epithelia and that also regulate the differentiation program of the intestine's principal epithelial lineage as a function of its location along the duodenal-colonic axis. Finally, the Fabpl regulatory elements described in this report should be useful for delivering a variety of gene products throughout the colonic epithelium of transgenic mice.
CC Genetics and Cytogenetics - Animal *03506
Biochemical Studies - General *10060
Digestive System - General; Methods *14001
Urinary System and External Secretions - General; Methods *15501
renal = Kidney.
BC Muridae *86375
IT Major Concepts

Biochemistry and Molecular Biophysics; Digestive System (Ingestion and Assimilation); Genetics; Urinary System (Chemical Coordination and Homeostasis)

IT Sequence Data
nucleotide sequence

IT Miscellaneous Descriptors
ACTIVATOR FUNCTIONS; ADULT; COLONIC EPITHELIAL CELLS; DIGESTIVE SYSTEM; EXCRETORY SYSTEM; FABPL; FABPL REGULATORY ELEMENTS; **LIVER FATTY ACID-BINDING PROTEIN** GENE; MATRIX METALLOPROTEINASE-2; MOLECULAR GENETICS; **RENAL** EPITHELIAL CELLS; REPEATED HEPTAD SEQUENCE; SMALL INTESTINAL EPITHELIAL CELLS; SUPPRESSOR FUNCTIONS; TRANSCRIPTION FACTORS; TRANSGENE EXPRESSION; TRANSGENIC MOUSE

ORGN Super Taxa
Muridae: Rodentia, Mammalia, Vertebrata, Chordata, Animalia

ORGN Organism Name
Muridae (Muridae)

ORGN Organism Superterms
animals; chordates; mammals; nonhuman vertebrates; nonhuman mammals; rodents; vertebrates

2 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1992:647417 CAPLUS
DN 117:247417
TI Molecular identification of the liver- and the heart-type fatty acid-binding proteins in human and rat kidney. Use of the reverse transcriptase polymerase chain reaction
AU Maatman, Ronald G. H. J.; Van de Westerlo, Els M. A.; Van Kuppevelt, Toin H. M. S. M.; Veerkamp, Jacques H.
CS Dep. Biochem., Univ. Nijmegen, Nijmegen, 6500 HB, Neth.
SO Biochemical Journal (1992), 288(1), 285-90
CODEN: BIJOAK; ISSN: 0306-3275
DT Journal
LA English
CC 6-3 (General Biochemistry)
Section cross-reference(s): 13
AB The cDNAs of 2 types of fatty acid-binding protein (FABP) present in human kidney, previously described as types A and B, were isolated using reverse transcriptase-PCR (RT-PCR) with human kidney mRNA and various sets of primers. The cDNA fragments were cloned and sequenced. **Renal** FABP type A and B cDNAs appeared to be completely identical to human liver- and heart-type FABP cDNAs, resp. The presence of liver-type FABP in rat kidney was demonstrated by chromatog., ELISA, and immunocytochem. The ratio and cellular distribution of the 2 FABP types varies markedly in human and rat kidney. RT-PCR permitted prepn. and identification of liver- and heart-type FABP cDNAs with mRNA from both male and female rat kidney.
ST fatty acid binding protein type kidney; liver type FABP protein kidney; heart type FABP protein kidney
IT Kidney, composition
(fatty acid-binding proteins of, of human and other mammal, liver and heart types of)
IT Proteins, specific or class
RL: BIOL (Biological study)
(L-FABP (**liver fatty acid-binding protein**), of kidney, of human and other mammal)
IT Phosphoproteins
RL: BIOL (Biological study)
(h-FABP (heart fatty acid-binding protein), of kidney, of human and other mammal)

cells in colonic crypts distributed from the cecum to the rectum support transgene expression. The heptad has no obvious sequence similarities to known transcription factor binding sites, suggesting that mediators of its in vivo activities are likely to be novel. One candidate factor is a 90-kDa protein identified in Southwestern blots. The 90-kDa protein also binds to an element in the matrix metalloproteinase-2 gene that functions as an enhancer in renal cells, shares sequence homology with the heptad, and generates similar-sized complexes in gel mobility shift assays as the Fabpl repeat. The heptad repeat represents a target for identifying transcription factors that regulate gene expression between gut and renal epithelia and that also regulate the differentiation program of the intestine's principal epithelial lineage as a function of its location along the duodenal-colonic axis. Finally, the Fabpl regulatory elements described in this report should be useful for delivering a variety of gene products throughout the colonic epithelium of transgenic mice.

CC Genetics and Cytogenetics - Animal *03506
Biochemical Studies - General *10060
Digestive System - General; Methods *14001
Urinary System and External Secretions - General; Methods *15501

BC Muridae *86375

IT Major Concepts
Biochemistry and Molecular Biophysics; Digestive System (Ingestion and Assimilation); Genetics; Urinary System (Chemical Coordination and Homeostasis)

IT Sequence Data
nucleotide sequence

IT Miscellaneous Descriptors
ACTIVATOR FUNCTIONS; ADULT; COLONIC EPITHELIAL CELLS; DIGESTIVE SYSTEM; EXCRETORY SYSTEM; FABPL; FABPL REGULATORY ELEMENTS; **LIVER FATTY ACID-BINDING PROTEIN** GENE; MATRIX METALLOPROTEINASE-2; MOLECULAR GENETICS; RENAL EPITHELIAL CELLS; REPEATED HEPTAD SEQUENCE; SMALL INTESTINAL EPITHELIAL CELLS; SUPPRESSOR FUNCTIONS; TRANSCRIPTION FACTORS; TRANSGENE EXPRESSION; TRANSGENIC MOUSE

ORGN Super Taxa
Muridae: Rodentia, Mammalia, Vertebrata, Chordata, Animalia

ORGN Organism Name
Muridae (Muridae)

ORGN Organism Superterms
animals; chordates; mammals; nonhuman vertebrates; nonhuman mammals; rodents; vertebrates

L3 ANSWER 12 OF 23 MEDLINE on STN
AN 96195889 MEDLINE
DN 96195889 PubMed ID: 8620565
TI Decreased glutathione peroxidase activity in mice in response to nafenopin is caused by changes in selenium metabolism.
AU Garberg P; Thullberg M
CS National Institute of Occupational Health, Department of Toxicology, Solna, Sweden.
SO CHEMICO-BIOLOGICAL INTERACTIONS, (1996 Jan 5) 99 (1-3) 165-77.
Journal code: 0227276. ISSN: 0009-2797.
CY Ireland
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199606
ED Entered STN: 19960627
Last Updated on STN: 19960627
Entered Medline: 19960619

AB The activity of selenium-dependent glutathione peroxidase is known to be reduced in the liver of both rats and mice after exposure to nafenopin, as

well as other peroxisome proliferators. The mechanism for this down-regulation is not known, but might involve changes in incorporation of selenium into selenoproteins. In this paper we show that both incorporation of selenium into selenoproteins and the level of selenium in liver is reduced in mice treated with nafenopin. The activity of selenium dependent glutathione peroxidase (GPx), as well as incorporation of selenium into its 23 kD subunit were found to be decreased. Contrary to what might have been expected, the decreased GPx activity was detected concomitantly with a slight increase in mRNA levels after 10 days of treatment, while a small decrease in mRNA levels was detected in treated animals after 26 weeks, together with the decrease in GPx-activity. Incorporation of selenium into **liver fatty acid binding protein** (L-FABP) was also decreased, even though large increases in protein and mRNA levels were detected. Taken together these data suggest that the decrease in GPx-activity in response to nafenopin is due to post-transcriptional mechanisms, involving changes in selenium metabolism.

CT Check Tags: Animal; Male
Blotting, Northern
Body Weight: DE, drug effects
Carrier Proteins: ME, metabolism
*Glutathione Peroxidase: ME, metabolism
Kidney: CH, chemistry
Kidney: DE, drug effects
Kidney: ME, metabolism
Liver: CH, chemistry
Liver: DE, drug effects
Liver: ME, metabolism
Mice
Mice, Inbred Strains
Microbodies: DE, drug effects
Microbodies: ME, metabolism
Myelin P2 Protein: ME, metabolism
*Nafenopin: PD, pharmacology
Organ Weight: DE, drug effects
Oxidation-Reduction
Proteins: ME, metabolism
RNA, Messenger: ME, metabolism
*Selenium: ME, metabolism
Testis: CH, chemistry
Testis: DE, drug effects
Testis: ME, metabolism

RN 3771-19-5 (Nafenopin); 7782-49-2 (Selenium)

CN 0 (Carrier Proteins); 0 (Myelin P2 Protein); 0 (Proteins); 0 (RNA, Messenger); 0 (fatty acid-binding proteins); EC 1.11.1.9 (Glutathione Peroxidase)

L3 ANSWER 13 OF 23 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1997:325630 CAPLUS

DN 127:3209

TI Interaction of fatty acid-binding proteins with the peroxisome proliferator-activated receptor alpha. Evidence for FABP modulation of the gene response to fatty acid overload

AU Bass, Nathan M.

CS Department of Medicine, University of California, San Francisco, San Francisco, CA, 94143, USA

SO Frontiers in Bioactive Lipids, [Proceedings of the Washington International Spring Symposium], 16th, Washington, D. C., May 6-9, 1996 (1996), 67-72. Editor(s): Vanderhoek, Jack Y. Publisher: Plenum, New York, N. Y.
CODEN: 64JQAR

DT Conference; General Review

LA English
CC 13-0 (Mammalian Biochemistry)
Section cross-reference(s): 6
AB A review, with 38 refs., on the interaction between fatty acid-binding protein (FABP), most notably the liver form, and the activation of peroxisome proliferator-activated receptor alpha (PPAR.alpha.), the isotype of this family of nuclear receptors which is predominantly expressed in liver, **kidney** and heart muscle tissue.
ST review fatty acid binding protein PPARalpha; peroxisome proliferator activated receptor FABP review
IT Proteins, specific or class
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(FABP (fatty acid-binding protein); interaction of fatty acid-binding proteins with the peroxisome proliferator-activated receptor alpha)
IT Proteins, specific or class
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(L-FABP (**liver fatty acid-binding protein**); interaction of fatty acid-binding proteins with the peroxisome proliferator-activated receptor alpha)
IT Gene
(expression; interaction of fatty acid-binding proteins with the peroxisome proliferator-activated receptor alpha)
IT Gene, animal
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(for peroxisome proliferator-activated receptor .alpha.; interaction of fatty acid-binding proteins with the peroxisome proliferator-activated receptor alpha)
IT Liver
(interaction of fatty acid-binding proteins with the peroxisome proliferator-activated receptor alpha)
IT Albumins, biological studies
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(interaction of fatty acid-binding proteins with the peroxisome proliferator-activated receptor alpha)
IT Fatty acids, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(interaction of fatty acid-binding proteins with the peroxisome proliferator-activated receptor alpha)
IT Peroxisome proliferator-activated receptors
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(.alpha.; interaction of fatty acid-binding proteins with the peroxisome proliferator-activated receptor alpha)

L3 ANSWER 14 OF 23 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 3
AN 1996:33427 BIOSIS
DN PREV199698605562
TI Purification, characterization, and cloning of a heme-binding protein (23 kDa) in rat liver cytosol.
AU Iwahara, Shin-Ichiro; Satoh, Hiroyuki; Song, De-Xiu; Webb, James; Burlingame, Alma L.; Nagae, Yasuhiro; Muller-Eberhard, Ursula (1)

CS (1) 525 East 68th St., Room N-804, New York, NY 10021 USA
SO Biochemistry, (1995) Vol. 34, No. 41, pp. 13398-13406.
ISSN: 0006-2960.
DT Article
LA English
AB A, heme-binding protein (designated HBP23) has been purified from rat liver cytosol using heme-affinity chromatography and either reverse-phase high-performance liquid chromatography or sequential ion-exchange chromatography. The protein (23 kDa) binds heme with an affinity (K-d = 55 nM) higher than that of the abundant cytosolic heme-binding proteins. heme-binding protein (HBP)/**liver fatty acid-binding protein** (L-FABP) and the glutathione S-transferases (GSTs) (K-d = 100-200 nM). HBP23 is present in the cytosol of liver, **kidney**, spleen, small intestine, and heart, with the liver showing the highest content. A cDNA coding the 23-kDa protein was cloned using reverse transcription polymerase chain reaction with degenerative oligonucleotides derived from partial amino acid sequences. The cloned cDNA encoded 199 amino acids, and its amino acid sequence showed no homology to HBP/L-FABP, GSTs, or any other heme-binding proteins or hemeproteins. Homology search showed that HBP23 is highly homologous to mouse macrophage 23-kDa stress protein, which is inducible by oxidant stress in peritoneal macrophages (Ishii, T., Yamada. M., Sato, H., Matsue, M., Taketani. S., Nakayama, K., Sugita, Y., and Bannai, S. (1993) J. Biol.Chem. 268. 18633-18636). Thioredoxin peroxidase as well as HBP23 and the mouse macrophage 23-kDa stress protein are members of the peroxiredoxin family, a recently recognized class of antioxidant proteins (Chae, H. Z., Chung, S. J., & Rhee, S. G. (1994) J. Biol. Chem. 269, 27670-276781. An increase in HBP23 mRNA was observed in Hepa 1-6 cells after treatment with heme and cadmium and during liver regeneration after partial hepatectomy. These findings indicate an involvement of HBP23 in heme metabolism.
CC Cytology and Cytochemistry - Animal *02506
Biochemical Studies - Proteins, Peptides and Amino Acids 10064
Biochemical Studies - Lipids 10066
Biochemical Studies - Minerals 10069
Biophysics - Molecular Properties and Macromolecules *10506
Enzymes - Chemical and Physical *10806
Digestive System - Physiology and Biochemistry *14004
BC Muridae *86375
IT Major Concepts
Biochemistry and Molecular Biophysics; Cell Biology; Digestive System (Ingestion and Assimilation); Enzymology (Biochemistry and Molecular Biophysics)
IT Chemicals & Biochemicals
GLUTATHIONE S-TRANSFERASE; HEME
IT Miscellaneous Descriptors
GLUTATHIONE S-TRANSFERASE; HEME METABOLISM; **LIVER FATTY ACID-BINDING PROTEIN**
ORGN Super Taxa
Muridae: Rodentia, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
Muridae (Muridae)
ORGN Organism Superterms
animals; chordates; mammals; nonhuman vertebrates; nonhuman mammals; rodents; vertebrates
RN 50812-37-8 (GLUTATHIONE S-TRANSFERASE)
14875-96-8 (HEME)

L3 ANSWER 15 OF 23 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 4
AN 1994:494184 BIOSIS
DN PREV199497507184

TI Studies on the efflux of heme from biological membranes.
AU Liem, Heng H.; Noy, Noa; Muller-Eberhard, Ursula (1)
CS (1) Dep. Pediatr./Hematol.-Oncol., Cornell Univ. Med. Coll., 525 E. 68th St. N-804, New York, NY 10021 USA
SO Biochimica et Biophysica Acta, (1994) Vol. 1194, No. 2, pp. 264-270. ISSN: 0006-3002.
DT Article
LA English
AB It is unknown how heme is distributed intracellularly from its site of synthesis in the mitochondria to other organelles. In previous work (Biochemistry 23, 3715, 1984) the transfer of heme from lipid bilayers to soluble proteins had been found to be independent of the recipient proteins' affinity for heme. Here, we investigated whether proteins are involved in the transfer of heme from biological membranes into aqueous media. We followed the release of 14C-labeled heme, from mitochondria preloaded with the heme, to BSA and found that only about 28% of the heme was extracted on the first wash. After the third wash 35-50% of the heme that had been partitioned into the membranes was extracted. Fourth and fifth washes with BSA or a cytosolic heme-binding protein (HBP, also known as **liver fatty acid binding protein**) removed only insignificant amounts of 14C-labeled heme. Similarly, a large portion of the preloaded 14C-labeled heme could not be extracted from a variety of isolated membranes (inner and outer mitochondrial membranes, plasma membranes of liver cells, **kidney** cortex cells and erythrocyte membranes). By contrast, essentially all (14 C)palmitate preloaded in biological membranes and all 14C-labeled heme preloaded in synthetic membranes was released to albumin (Biochemistry 23, 3715, 1984). These observations suggest that, in general, heme associates with membrane components which can be distinguished into two compartments. One compartment releases its heme spontaneously, while another compartment binds heme so tightly that a specific process has to be evoked for its release.
CC Cytology and Cytochemistry - Animal *02506
Biochemical Studies - Proteins, Peptides and Amino Acids *10064
Biochemical Studies - Porphyrins and Bile Pigments *10065
Biophysics - Membrane Phenomena *10508
Metabolism - Porphyrins and Bile Pigments *13013
BC Muridae *86375
IT Major Concepts
Biochemistry and Molecular Biophysics; Cell Biology; Membranes (Cell Biology); Metabolism
IT Chemicals & Biochemicals
HEME
IT Miscellaneous Descriptors
BOVINE SERUM ALBUMIN; HEME TRANSFER; HEME-BINDING PROTEIN; MITOCHONDRIA
ORGN Super Taxa
Muridae: Rodentia, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
rat (Muridae)
ORGN Organism Superterms
animals; chordates; mammals; nonhuman mammals; nonhuman vertebrates; rodents; vertebrates
RN 14875-96-8 (HEME)

L3 ANSWER 16 OF 23 MEDLINE on STN
AN 93352664 MEDLINE
DN 93352664 PubMed ID: 8349710
TI Use of transgenic mice to map cis-acting elements in the **liver fatty acid-binding protein** gene (Fabpl) that regulate its cell lineage-specific, differentiation-dependent, and spatial patterns of expression in the gut epithelium and in the liver acinus.

AU Simon T C; Roth K A; Gordon J I
CS Department of Molecular Biology, Washington University School of Medicine, St. Louis, Missouri 63110.
NC DK30292 (NIDDK)
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1993 Aug 25) 268 (24) 18345-58. Journal code: 2985121R. ISSN: 0021-9258.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199309
ED Entered STN: 19931001
Last Updated on STN: 19931001
Entered Medline: 19930916
AB Axial pattern formation is sustained in the mammalian gut epithelium despite rapid and continuous renewal of its four principal cell lineages. The mouse and rat **liver fatty acid-binding protein** (L-FABP) genes (Fabpl) represent an excellent model for understanding the mechanisms that determine differentiation-dependent, cell lineage-specific, and distinct regional patterns of expression along the crypt-to-villus and duodenal-to-ileal axes of the gut, as well as within the liver acinus. We have used transgenic mice to map cis-acting elements in rat Fabpl that control these patterns of gene expression. Seven transgenes were analyzed, representing sequential deletions of the 5'-nontranscribed domain of Fabpl linked to the human growth hormone (hGH) gene beginning at its nucleotide +3 (L-FABP/hGH+3). Several pedigrees of mice containing each one of the L-FABP/hGH+3 transgenes were examined at the end of their 8th and 20th weeks of postnatal life using immunocytochemical and RNA hybridization analyses. A remarkably compact sequence spanning nucleotides -132 to +21 of Fabpl is sufficient to establish and maintain a distribution of reporter mRNA and protein in villus-associated enterocytes located along the duodenal-to-ileal axis of the gut that resembles the pattern of expression of the endogenous Fabpl gene. L-FABP-132 to +21/hGH+3 is also expressed in surface and pit mucous cells of gastric units and in enterocytes located in the colonic homologs of small intestinal villi, the surface epithelial cuffs. This pattern of transgene expression in the stomach and colon recapitulates that of the intact endogenous donor rat Fabpl but not that of mouse Fabpl, which is silent in these proximal and distal segments of the gastrointestinal tract. Analysis of mice containing L-FABP-4000 to +21/hGH+3, L-FABP-1600 to +21/hGH+3, L-FABP-596 to +21/hGH+3, L-FABP-246 to +21/hGH+3, and L-FABP-186 to +21/hGH+3 indicate that Fabpl's cephalocaudal gradient is influenced by cis-acting suppressors of cecal and colonic expression located between nucleotides -4000 and -1600 and by cis-acting activators of cecal and colonic expression located between nucleotides -597 and -351. L-FABP-132 to +21/hGH+3 is precociously activated in proliferating and nonproliferating epithelial cells located in intestinal crypts. The suppressor(s) of L-FABP accumulation in crypt epithelial cell populations are not represented between nucleotides -4000 and +21, indicating that different cis-acting sequences regulate regional and differentiation-dependent patterns of Fabpl expression.(ABSTRACT TRUNCATED AT 400 WORDS)
CT Check Tags: Animal; Human; Support, U.S. Gov't, P.H.S.
Aging: ME, metabolism
Base Sequence
*Carrier Proteins: BI, biosynthesis
*Carrier Proteins: GE, genetics
Cell Differentiation
Epithelial Cells
Epithelium: ME, metabolism
Fatty Acids: ME, metabolism
Gastrointestinal System: CY, cytology

*Gastrointestinal System: ME, metabolism
Growth Hormone: BI, biosynthesis
Growth Hormone: BL, blood
Growth Hormone: GE, genetics
Immunohistochemistry
In Situ Hybridization
Kidney: CY, cytology
Kidney: ME, metabolism
Liver: CY, cytology
*Liver: ME, metabolism
Mice
Mice, Transgenic
Molecular Sequence Data
Oligodeoxyribonucleotides
Organ Specificity
RNA, Messenger: IP, isolation & purification
*RNA, Messenger: ME, metabolism
Rats
Sequence Deletion
RN 9002-72-6 (Growth Hormone)
CN 0 (Carrier Proteins); 0 (Fatty Acids); 0 (Oligodeoxyribonucleotides); 0 (RNA, Messenger); 0 (fatty acid-binding proteins)
GEN Fabpl

L3 ANSWER 17 OF 23 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1992:647417 CAPLUS
DN 117:247417
TI Molecular identification of the liver- and the heart-type fatty acid-binding proteins in human and rat **kidney**. Use of the reverse transcriptase polymerase chain reaction
AU Maatman, Ronald G. H. J.; Van de Westerlo, Els M. A.; Van Kuppevelt, Toin H. M. S. M.; Veerkamp, Jacques H.
CS Dep. Biochem., Univ. Nijmegen, Nijmegen, 6500 HB, Neth.
SO Biochemical Journal (1992), 288(1), 285-90
CODEN: BIJOAK; ISSN: 0306-3275
DT Journal
LA English
CC 6-3 (General Biochemistry)
Section cross-reference(s): 13
AB The cDNAs of 2 types of fatty acid-binding protein (FABP) present in human **kidney**, previously described as types A and B, were isolated using reverse transcriptase-PCR (RT-PCR) with human **kidney** mRNA and various sets of primers. The cDNA fragments were cloned and sequenced. Renal FABP type A and B cDNAs appeared to be completely identical to human liver- and heart-type FABP cDNAs, resp. The presence of liver-type FABP in rat **kidney** was demonstrated by chromatog., ELISA, and immunocytochem. The ratio and cellular distribution of the 2 FABP types varies markedly in human and rat **kidney**. RT-PCR permitted prepn. and identification of liver- and heart-type FABP cDNAs with mRNA from both male and female rat **kidney**.
ST fatty acid binding protein type **kidney**; liver type FABP protein **kidney**; heart type FABP protein **kidney**
IT **Kidney**, composition
(fatty acid-binding proteins of, of human and other mammal, liver and heart types of)
IT Proteins, specific or class
RL: BIOL (Biological study)
(L-FABP (**liver fatty acid-binding protein**), of **kidney**, of human and other mammal)
IT Phosphoproteins
RL: BIOL (Biological study)
(h-FABP (heart fatty acid-binding protein), of **kidney**, of

human and other mammal)

L3 ANSWER 18 OF 23 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 5
AN 1990:235569 BIOSIS
DN BA89:122522
TI IMMUNOCHEMICAL QUANTITATION OF FATTY ACID-BINDING PROTEINS TISSUE DISTRIBUTION OF LIVER AND HEART FABP TYPES IN HUMAN AND PORCINE TISSUES.
AU PAULUSSEN R J A; VAN MOERKERK H T B; VEERKAMP J H
CS DEP. BIOCHEMISTRY, UNIV. NIJMEGEN, THE NETHERLANDS.
SO INT J BIOCHEM, (1990) 22 (4), 393-398.
CODEN: IJBOBV. ISSN: 0020-711X.
FS BA; OLD
LA English
AB 1. Antisera against heart and **liver fatty acid -binding proteins** (FABPs) were used in enzyme-linked immunosorbent assay to study the cross-reactivity between these FABP types of man, pig and rat, and to assess their tissue distribution in man and pig. 2. No cross-reactivities were found of heart FABPs with anti-liver FABP sera and vice versa. With the liver FABPs, marked species differences were found, but the three proteins are clearly related. Human and pig heart FABP are immunochemically closer related to each other than to this protein from rat heart. 3. The tissue distribution of the heart and liver FABP types is similar in man, pig and rat. Liver FABP is only found in liver and intestine, and heart FABP is present in heart, skeletal muscle, **kidney**, lung, brain and placenta. 4. Cardiac FABP is also found in cultured human and rat endothelial cells. 5. The FABP content content of human and pig liver is comparable to that of rat liver, but the tissue concentrations of heart FABP are lower in man and pig than in rat. When the latter values are expressed relative to the FABP content in heart, analogous distribution patterns are observed in man, pig and rat.
CC Comparative Biochemistry, General *10010
Biochemical Methods - Proteins, Peptides and Amino Acids 10054
Biochemical Methods - Lipids 10056
Biochemical Studies - Proteins, Peptides and Amino Acids *10064
Biochemical Studies - Lipids *10066
Enzymes - Methods 10804
Physiology, General and Miscellaneous - Comparative *12003
Digestive System - Physiology and Biochemistry *14004
Cardiovascular System - Physiology and Biochemistry *14504
Immunology and Immunochemistry - General; Methods 34502
BC Suidae 85740
Hominidae 86215
Muridae 86375
IT Miscellaneous Descriptors
RAT ELISA

L3 ANSWER 19 OF 23 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 6
AN 1989:380867 BIOSIS
DN BA88:61457
TI DEVELOPMENTAL CHANGES IN THE EXPRESSION OF GENES INVOLVED IN CHOLESTEROL BIOSYNTHESIS AND LIPID TRANSPORT IN HUMAN AND RAT FETAL AND NEONATAL LIVERS.
AU LEVIN M S; PITT A J A; SCHWARTZ A L; EDWARDS P A; GORDON J I
CS DEP. MED., WASHINGTON UNIV. SCH. MED., 660 S. EUCLID AVE., BOX 8124, ST. LOUIS, MO 63110, USA.
SO BIOCHIM BIOPHYS ACTA, (1989) 1003 (3), 293-300.
CODEN: BBACAQ. ISSN: 0006-3002.
FS BA; OLD
LA English
AB Cloned cDNAs encoding a number of enzymes involved in cholesterol

biosynthesis as well as extracellular and intracellular lipid transport were used to compare the developmental maturation of these biologic functions in the fetal and neonatal rat and human liver. The results of RNA blot hybridization analyses indicate that steady-state levels of rat HMG-CoA synthase, HMG-CoA reductase and prenyl transferase mRNAs are highest in late fetal life and undergo preciptious (up to 80-fold) co-ordinate reductions immeidately after parturition. These changes reflect the ability of the fetal rat liver to produce large quantities of cholesterol as well as the repression of this function during the suckling period in response to exogenous dietary cholesterol. Striking co-ordinate patterns of HMG-CoA synthase, reductase and prenyl-transferase mRNA accumulation were also observed in four extrahepatic rat tissues (brain, lung, intestine and **kidney**) during the perinatal period. The concentrations of the three mRNs in the 8-week-old human fetal liver are similar to those observed throughout subsequent intrauterine development with less than 2-fold changes noted between the 8th through 25th weeks of gestation. Analysis of the levels of human apo AI, apo AII, apo B and **liver fatty acid binding protein** mRNAs during this period and in newborn liver specimens also indicated less than 2-3-fold changes. These observations suggest that the 8-week human liver has achieved a high degree of biochemical differentiation with respect to functions involved in lipid metabolism/transport which may be comparable to that present in 19-21 day fetal rat liver. Further analysis of human and rat fetal liver RNAs using cloned cDNAs should permit construction of a development time scale correlating hepatic biochemical differentiation to be constructed between these two mammalian species.

CC Genetics and Cytogenetics - Animal *03506
Genetics and Cytogenetics - Human *03508
Comparative Biochemistry, General *10010
Biochemical Methods - Lipids 10056
Biochemical Methods - Sterols and Steroids 10057
Biochemical Studies - Lipids *10066
Biochemical Studies - Sterols and Steroids *10067
Movement 12100
Metabolism - Lipids *13006
Metabolism - Sterols and Steroids *13008
Developmental Biology - Embryology - Morphogenesis, General *25508

BC Mammalia - Unspecified 85700
Hominidae 86215
Muridae 86375

IT Miscellaneous Descriptors
MAMMAL RNA COMPLEMENTARY DNA

RN 57-88-5 (CHOLESTEROL)

L3 ANSWER 20 OF 23 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 7

AN 1989:182961 BIOSIS

DN BA87:94227

TI IMMUNOCHEMICAL QUANTITATION OF FATTY-ACID-BINDING PROTEINS I. TISSUE AND INTRACELLULAR DISTRIBUTION POSTNATAL DEVELOPMENT AND INFLUENCE OF PHYSIOLOGICAL CONDITIONS ON RAT HEART AND LIVER FABP.

AU PAULUSSEN R J A; GEELEN M J H; BEYNEN A C; VEERKAMP J H

CS DEP. BIOCHEM., UNIV. NIJMEGEN, P.O. BOX 9101, 6500 HB NIJMEGEN, NETHERLANDS.

SO BIOCHIM BIOPHYS ACTA, (1989) 1001 (2), 201-209.
CODEN: BBACAQ. ISSN: 0006-3002.

FS BA; OLD

LA English

AB Antisera against rat heart and **liver fatty acid-binding protein** (FABP) were applied in Western blotting analysis and ELISA to assess their tissue and

intracellular distribution, and the influence of development, physiological conditions and several agents on the FABP content of tissue cytosols. The data obtained are compared with the oleic acid-binding capacity. Heart FABP is found in high concentrations in heart, skeletal muscles, diaphragm and lung, and in lower concentrations in **kidney** , brain and spleen, whereas liver FABP is limited to liver and intestine. In heart and liver, FABP is only present in the cytosol. The FABP content of both heart and liver shows a progressive increase during the first weeks of postnatal development, in contrast to their constant oleic acid-binding capacity. The reciprocally declining .alpha.-fetoprotein content of both tissues may partially account for the complementary fraction of the fatty acid-binding capacity. The FABP content and the fatty acid-binding capacity of adult heart and liver were in good accordance under various physiological conditions. Addition of clofibrate to the diet induces an increase of liver FABP content, whereas feeding of cholesterol, cholestyramine, mevinolin or cholate caused a marked decrease. The significance of the combined determination of fatty acid-binding capacity and FABP content (by immunochemical quantitation and blotting analysis) is indicated.

CC Microscopy Techniques - Histology and Histochemistry 01056
Cytology and Cytochemistry - Animal *02506
Biochemical Studies - General 10060
Biochemical Studies - Proteins, Peptides and Amino Acids 10064
Biochemical Studies - Lipids 10066
Anatomy and Histology, General and Comparative - Microscopic and Ultramicroscopic Anatomy *11108
Metabolism - Lipids *13006
Metabolism - Proteins, Peptides and Amino Acids *13012
Nutrition - General Dietary Studies *13214
Nutrition - Sterols and Steroids *13226
Digestive System - Physiology and Biochemistry *14004
Cardiovascular System - Physiology and Biochemistry *14504
Developmental Biology - Embryology - Morphogenesis, General *25508
Immunology and Immunochemistry - General; Methods 34502

BC Muridae 86375

IT Miscellaneous Descriptors
LIPID METABOLISM OLEIC ACID ALPHA FETOPROTEIN DIET CLOFIBRATE CHOLESTEROL CHOLESTYRAMINE MEVINOLIN CHOLATE

RN 57-88-5 (CHOLESTEROL)
81-25-4 (CHOLATE)
112-80-1 (OLEIC ACID)
637-07-0 (CLOFIBRATE)
11041-12-6 (CHOLESTYRAMINE)
75330-75-5 (MEVINOLIN)

L3 ANSWER 21 OF 23 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
AN 1989:216021 BIOSIS
DN BR36:105235
TI ANALYSIS OF **LIVER FATTY ACID BINDING PROTEIN** IMMUNOREACTIVITY IN COLORECTAL ADENOCARCINOMAS AND ADENOMAS A COMPARISON WITH CARCINOMAS ARISING IN OTHER SITES.
AU CARROLL S L; GORDON J I; ROTH K A
CS DEP. PATHOL., WASHINGTON UNIV. SCH. MED., ST. LOUIS, MO., USA.
SO ANNUAL MEETING OF THE UNITED STATES AND CANADIAN ACADEMY OF PATHOLOGY (UNITED STATES-CANADIAN DIVISION OF THE INTERNATIONAL ACADEMY OF PATHOLOGY), SAN FRANCISCO, CALIFORNIA, USA, MARCH 5-10, 1989. LAB INVEST. (1989) 60 (1), 15A.
CODEN: LAINAW. ISSN: 0023-6837.
DT Conference
FS BR; OLD
LA English
CC General Biology - Symposia, Transactions and Proceedings of Conferences,

Congresses, Review Annuals 00520
Microscopy Techniques - Histology and Histochemistry 01056
Comparative Biochemistry, General *10010
Biochemical Studies - Proteins, Peptides and Amino Acids 10064
Biochemical Studies - Lipids 10066
Biophysics - Molecular Properties and Macromolecules 10506
Anatomy and Histology, General and Comparative - Microscopic and Ultramicroscopic Anatomy *11108
Pathology, General and Miscellaneous - Comparative *12503
Pathology, General and Miscellaneous - Diagnostic 12504
Metabolism - Lipids *13006
Digestive System - Pathology *14006
Urinary System and External Secretions - Pathology *15506
Reproductive System - Pathology *16506
Neoplasms and Neoplastic Agents - Diagnostic Methods *24001
Neoplasms and Neoplastic Agents - Immunology *24003
Neoplasms and Neoplastic Agents - Neoplastic Cell Lines *24005
Neoplasms and Neoplastic Agents - Biochemistry *24006
Developmental Biology - Embryology - Morphogenesis, General 25508
Laboratory Animals - General 28002
Immunology and Immunochemistry - General; Methods *34502

BC Muridae 86375

IT Miscellaneous Descriptors
ABSTRACT MOUSE CELLULAR DIFFERENTIATION STOMACH BREAST **KIDNEY** ENDOMETRIUM IMMUNOSTAINING CANCER MARKER

L3 ANSWER 22 OF 23 MEDLINE on STN
AN 89079006 MEDLINE
DN 89079006 PubMed ID: 2462524
TI Mechanisms underlying generation of gradients in gene expression within the intestine: an analysis using transgenic mice containing fatty acid binding protein-human growth hormone fusion genes.
AU Sweetser D A; Birkenmeier E H; Hoppe P C; McKeel D W; Gordon J I
CS Department of Biological Chemistry, Washington University School of Medicine, St. Louis, Missouri 63110.
NC 5P30-CA 34196-05 (NCI)
DK 30292 (NIDDK)
DK 34384 (NIDDK)
SO GENES AND DEVELOPMENT, (1988 Oct) 2 (10) 1318-32.
Journal code: 8711660. ISSN: 0890-9369.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198901
ED Entered STN: 19900308
Last Updated on STN: 19970203
Entered Medline: 19890127
AB The intestine is lined by a continuously regenerating epithelium that maintains gradients in '**liver**' **fatty acid binding protein** (L-FABP) gene expression along its horizontal and vertical axes, i.e., from duodenum to colon and from crypt to villus tip. To identify cis-acting DNA sequences responsible for these regional differences, we linked portions of the L-FABP gene's 5' nontranscribed region to the human growth hormone (hGH) gene and examined hGH expression in transgenic mice. Nucleotides -596 to +21 of the rat L-FABP gene correctly directed hGH expression to enterocytes and hepatocytes. However, anomalous expression was observed in small intestinal crypts, colon, and renal proximal tubular epithelial cells. Addition of nucleotides -4000 to -597 of the L-FABP gene, in either orientation, suppressed renal hGH expression and restored a nearly normal horizontal, but not a vertical, hGH gradient in the intestine. Thus,

horizontal gradients of gene expression within the intestine can be maintained by orientation-independent, cis-acting suppressor elements.

CT Check Tags: Animal; Comparative Study; Human; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.
Base Sequence
Carrier Proteins: BI, biosynthesis
*Carrier Proteins: GE, genetics
*Cloning, Molecular
Epithelium: ME, metabolism
Growth Hormone: BI, biosynthesis
Growth Hormone: BL, blood
*Growth Hormone: GE, genetics
Immunoblotting
Immunoenzyme Techniques
*Intestines: ME, metabolism
Kidney Tubules, Proximal: ME, metabolism
Liver: ME, metabolism
Mice
Mice, Transgenic
Mosaicism
Nucleic Acid Hybridization
Organ Specificity
Promoter Regions (Genetics)
RNA: BI, biosynthesis
Radioimmunoassay
*Regulatory Sequences, Nucleic Acid
Restriction Mapping

RN 63231-63-0 (RNA); 9002-72-6 (Growth Hormone)
CN 0 (Carrier Proteins); 0 (fatty acid-binding proteins)

L3 ANSWER 23 OF 23 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1986:458394 CAPLUS
DN 105:58394
TI Tissue expression of three structurally different fatty acid binding proteins from rat heart muscle, liver, and intestine
AU Bass, Nathan M.; Manning, Joan A.
CS Sch. Med., Univ. California, San Francisco, CA, 94143, USA
SO Biochemical and Biophysical Research Communications (1986), 137(3), 929-35
CODEN: BBRCA9; ISSN: 0006-291X
DT Journal
LA English
CC 13-1 (Mammalian Biochemistry)
AB Three structurally different 14-15-kilodalton fatty acid-binding proteins were purified from rat liver, small intestinal epithelium, and heart muscle and were quantitated in rat tissues by using specific antisera. Heart muscle fatty acid-binding protein comprised 5% of heart muscle cytosol protein and was also expressed in stomach, muscle, testis, ovary, **kidney**, brain, and adipose tissue, a pattern distinct from both liver protein (expressed in liver, small and large intestinal epithelia, and adipose tissue) and intestinal protein (expressed in small and large intestinal epithelium and stomach). Distinctive patterns of tissue expression of the 3 different fatty acid-binding proteins suggest that they may perform different specific functions in fatty acid transport and metab.
ST fatty acid binding protein tissue; heart fatty acid binding protein; **liver fatty acid binding protein**; intestine fatty acid binding protein
IT Brain, composition
Kidney, composition
Lung, composition
Muscle, composition
Ovary, composition

Testis, composition
(fatty acid-binding protein of heart expression in)
IT Pancreas, composition
(fatty acid-binding protein of liver expression in)
IT Heart, composition
Liver, composition
(fatty acid-binding protein of, expression of, in other organs)
IT Organ
(fatty acid-binding proteins of heart and intestine and liver expression in)
IT Adipose tissue, composition
(fatty acid-binding proteins of heart and liver expression in)
IT Stomach, composition
(fatty acid-binding proteins of other tissues expression in)
IT Cytoplasm
(cytosol, fatty acid-binding proteins of, expression of, in organs)
IT Proteins
RL: PROC (Process)
(fatty acid-binding, of heart and intestine and liver, expression of, in other organs)
IT Intestine, composition
(large, epithelium, fatty acid-binding proteins of liver and small intestine expression in)
IT Intestine, composition
(small, epithelium, fatty acid-binding protein of, expression of, in other organs)

=>